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DEPARTMENT OF THE INTERIOR
CANADA

HON. W. J. ROCHE, *Minister*. W. W. CORY, C.M.G., *Deputy Minister*.

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Precise Levelling

BY

F. B. REID, D.L.S.

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PRECISE LEVELLING.

BY F. B. REID, D.L.S.

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DEPARTMENT OF THE INTERIOR,
OTTAWA, CANADA,
19th February, 1913.

C. A. BIGGER, ESQ., D.L.S.,
Assistant Superintendent,
Geodetic Survey of Canada,
Ottawa.

Sir,—

I have the honour to make the following report giving the results of precise levelling done by the Geodetic Survey as far as they are ready for publication at the present time.

The work done previous to March 31st, 1910, has already been published in Appendix No. 5 to the Chief Astronomer's Report for that year; the present publication is a continuation of that report and is arranged in the same general form with the results of the levelling set forth in three tables.

Table I indicates the routes followed between terminal points and gives complete descriptions of all bench-marks established along these routes.

Table II shows in the first two columns the numbers of the bench-marks; in the third and fourth columns the approximate distance (in miles) between bench-marks, and from the initial bench-mark of the line; the fifth and sixth columns (headed "Discrepancy") give the difference (in feet) between the forward levelling and the backward levelling for each section between bench-marks and the accumulated difference from the initial bench-mark. The seventh column gives the elevations of the bench-marks shown in the second column; for convenience, these bench-mark numbers are repeated (in the eighth column) in order that the number of any bench-mark and its elevation may be in adjoining columns. In this table are shown also the elevations determined by the Geodetic Survey for certain bench-marks established by other surveys and connected with our levelling.

Table III shows the elevations at railway stations along the different lines of levels, the elevation was in every case taken on top of the rail; at telegraph stations it was taken in front of the telegraph office; at flag stations it was taken in front of the station-house or platform.

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The results are given for the following lines:—

1. St. John, N.B., to Moncton, N.B.
2. Oxford Jct., N.S., to Mulgrave, N.S.
3. Lennoxville, Que., to Stanstead, Que.
4. Lennoxville, Que., to 15 miles east of Megantic.
5. Megantic, Que., to Levis, Que.
6. Kempton, Ont., to Ottawa, Ont.
7. Colborne, Ont., to Toronto, Ont.
8. Toronto to Windsor, Ont.
9. Toronto to Owen Sound, Ont.
10. Owen Sound, Ont., to Hyde Park Jct., Ont.
11. Hamilton to Bridgeburg, Ont.
12. Bolton, Ont., to Bala, Ont.
13. Stephen, Minn., to Regina, Sask.
14. Regina, Sask., to Girvin, Sask.

Line 1 is a continuation of the line from St. Stephen published in the Chief Astronomer's Report for 1910, and the same datum in St. Stephen is used. A connection was made with bench-mark CCCXXXVI of the Public Works Department in Moncton station-house, and line 2 was started from another of their bench-marks, CML, in a bridge abutment at Oxford Junction; the difference in elevation between these two benches, as determined by the Public Works Department, has been used to furnish us the datum for line 2. Lines 3 and 4 are branches from the previously published line from Sherbrooke to Norton Mills, and line 5 is a branch from line 4. Line 6 is a branch from the Rouse Point—Toronto main line, a portion of which line, as far as Colborne, has been published; the remainder is given in this publication as line 7, the mileage and total discrepancy being carried through continuously from Rouse Point to Toronto. Line 8 is a continuation of line 7, while lines 9 and 10 are commenced at the same place as line 8, namely Toronto, and carried through a more northerly route to close on it near London. Line 11 is a branch from line 8, and line 12 a branch from line 9. Line 13 was started from bench-mark Q-6 of the United States Coast and Geodetic Survey at Stephen, Minn.; the elevation of which, based on the 1912 adjustment, is 253.2673 metres or 830.928 feet; this is the datum for all elevations on this line and on line 14, which is a continuation northwesterly from Regina.

All the elevations given are instrumental and have had no adjustments applied to them; it is believed, how that any changes which may be made in the future will be very sligh—provided the elevations of initial bench-marks remain unaltered. In this connection it should be noted that a circuit composed entirely of our own levelling has been closed at bench-mark 236–A near London, Ontario; the direct line from Toronto through Hamilton gives for this B. M. an elevation of 834.255 while the line from Toronto through Owen Sound and Palmerston gives an elevation of 834.406, a discrepancy of only 0.151 feet in a distance of about 436 miles of levelling.

A description of the standard form of bench-mark adopted is given in the Chief Astronomer's report for 1916.

I have the honour to be, Sir,

Your obedient servant,

F. B. Reid,

Inspector of Levelling.

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TABLE I.

BENCH-MARKS BETWEEN ST. JOHN AND MONCTON, N.B., VIA INTERCOLONIAL RAILWAY.

101–B In north face of top course of northeast retaining wall of stone arch culvert under Intercolonial railway, 450 feet west of Cold Brook station.

102–B In northwest face of large boulder on north side of Intercolonial railway track, directly opposite Torryburn station.

103–B In second course of stonework below top, in west face of northwest retaining wall of plate-girder bridge on Intercolonial railway, about ½ mile west of Rothesay station.

104–B In rock ledge on east side of road from Rothesay station to wharf, opposite small boat house, and about 525 feet north of mile post 9 from St. John.

105–B In second course of stonework below cap-stone, in north end of east face of west abutment of open culvert under Intercolonial railway, at mile post 11 from St. John.

106–B In sixth course of stonework below bridge-seat, in north end of east face of west abutment of subway, immediately east of Model Farm station.

107–B In top course of stonework, in south end of west face of retaining wall behind east abutment of railway bridge over Hammond river, ½ mile west of Nauwigewauk station.

108–B In north face of first stone below southeast cap-stone of subway under Intercolonial railway, 2,000 feet east of mile post 19 from St. John.

109–B In third course of stonework below water-table course, in south end of west wall of Kings county court house, immediately southeast of Hampton station.

110–B In north face of top course of stonework of southwest pier supporting overhead bridge over Intercolonial railway, 1¼ miles west of Passekeag and at mile post 25 from St. John.

111–B In east face of cap-stone on northwest retaining wall of plate-girder bridge over Passekeag creek, 1 mile west of Bloomfield station and 860 feet west of mile post 27 from St. John.

112–B In first course of stonework above bridge-seat, in south end of east face of retaining wall behind west abutment of plate-girder bridge over Mooschorn brook, 2¼ miles west of Norton.

113–B In east face of south concrete abutment of New Brunswick Coal and Railway Co.'s bridge over Kennebecasis river at Norton; the bench-mark is 12 inches from north face of abutment and 6 inches below bridge-seat.

114–B In second course of stonework above bridge-seat, in south end of west face of retaining wall behind east abutment of small bridge on Intercolonial railway, 260 feet east of mile post 35 from St. John—between Norton and Apohaqui.

115–B In first course of stonework above bridge-seat, in south face of west abutment of plate-girder bridge on Intercolonial railway, 1 mile west of Apohaqui and 750 feet east of mile post 38 from St. John.

116–B In second course of stonework above bridge-seat, in south end of east face of retaining wall behind west abutment of plate-girder bridge over Musquash brook, 3 miles west of Sussex and 300 feet west of mile post 41 from St. John.

117–B In third course of stonework below water-table course, in east end of south or front wall of Sussex post office, immediately north of Intercolonial railway.

118-B In first course of stonework above bridge-seat, in south end of east face of retaining wall behind west abutment of two span bridge over Salmon river, 0.6 miles west of Plumweseep.

119-B In second course of stonework above bridge-seat, in south end of west face of retaining wall behind east abutment of small plate-girder bridge on Intercolonial railway, 1 mile west of Penobsquis and 1,150 feet east of mile post 50 from St. John.

120-B In first course of stonework below bed of I-beams, in north end of west face of east abutment of open culvert under Intercolonial railway, ½ mile west of Dunsinane flag station and 2,130 feet east of mile post 54 from St. John.

121-B In second course below cap-stone, in north face of square stone culvert under Intercolonial railway, 2¾ miles west of Anagance and 350 feet east of mile post 58 from St. John.

122-B In second course of stonework below top, in south face of west abutment of plate-girder bridge on Intercolonial railway, 1¾ miles east of Anagance station.

123-B In first course of stonework below bridge-seat, in south face of west abutment of small plate-girder bridge on Intercolonial railway, 0.65 miles west of Petitcodiac station and 1,200 feet west of mile post 66 from St. John.

124-B In first course below cap-stone, in east end of north face of stone arch culvert under Intercolonial railway, 1½ miles east of Petitcodiac station and ¼ mile west of mile post 68 from St. John.

125-B In first course of stonework above bridge-seat, in west face—4 feet from north end—of retaining wall behind east abutment of Intercolonial railway bridge over Petitcodiac river, 1 mile west of River Glade station.

126-B In first course below cap-stone, in south face of stone arch culvert under Intercolonial railway, 1½ miles east of River Glade station and 900 feet west of mile post 73 from St. John.

127-B In second course below top, in north face of east abutment of small stone culvert under Intercolonial railway, 1¼ miles west of Salisbury and 900 feet west of mile post 75 from St. John.

128-B In top course of stonework, in south wall of Baptist church at Boundary Creek station, 22 inches from southwest corner of building.

129-B In second course of stonework below top, in west end of north face of north retaining wall of iron pipe culvert under Intercolonial railway, ⅔ mile west of Jones flag station and 750 feet east of mile post 82 from St. John.

130-B In second course below top, in east end of south face of square stone culvert under Intercolonial railway, 2½ miles east of Jones flag station and 2,070 feet east of mile post 85 from St. John.

131-B In first course of stonework below concrete cap, in west end of south face of southwest retaining wall of subway under Intercolonial railway, 1¾ miles west of Moncton and 2,200 feet west of mile post 88 from St. John.

132-B In stone water-table course, at south end of east wall of Intercolonial station-house at Moncton.

133-B In west end of south concrete wall of freight car repair shop, on Montreal line of Intercolonial railway, about 1 mile from Moncton station; the bench-mark is 1 foot from southwest corner of building and 3 feet above ground.

134-B In first course of stonework below lower water-table course, in east wall—4 feet from southeast corner—of post office, corner of Main and Telegraph streets, Moncton.

BENCH-MARKS BETWEEN OXFORD JUNCTION AND MULGRAVE, N.S., VIA INTERCOLONIAL RAILWAY THROUGH BROWNS POINT AND STELLARTON.

135-B In first course of stonework below cap-stone, in east face of southeast retaining wall of long bridge over Philip river, 1,800 feet west of Oxford Junction, on main line of Intercolonial railway from Halifax to Moncton.

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136-B In east end of south face of cap-stone on south end of square stone culvert under Intercolonial railway, about ¼ mile west of Oxford station and 200 feet west of highway crossing.

137-B In first course below cap-stone, in west end of south face of square stone culvert under Intercolonial railway, 1,000 feet west of mile post 6 from Oxford Junction.

138-B In first course below cap-stone, in west end of south face of square stone culvert under Intercolonial railway, ½ mile east of Hantsford flag station and 980 feet east of mile post 8 from Oxford Junction.

139-B In first course of stonework below cap-stone, in north end of west (or rear) face of west abutment of plate-girder bridge on Intercolonial railway, ¼ mile west of Conn Mills station.

140-B In first course below cap-stone, in north face of square stone culvert under Intercolonial railway, 1½ miles west of Pugwash Junction and 600 feet east of mile post 14 from Oxford Junction.

141-B In second course below top, in west end of south face of square stone culvert under Intercolonial railway, 1½ miles east of Pugwash Junction and 750 feet east of mile post 17 from Oxford Junction.

142-B In first course of stonework below cap-stone, in west face of southeast retaining wall of long bridge on Intercolonial railway, ½ mile east of Wallace Bridge station.

143-B In first course below cap-stone, in south face of square stone culvert under Intercolonial railway, 200 feet east of Wallace station.

144-B In second course of stonework below cap-stone, in east end of north face of northeast retaining wall of plate-girder bridge on Intercolonial railway, 1,400 feet west of Malagash station.

145-B In first course below cap-stone, in north face of square stone culvert under Intercolonial railway, 2.6 miles east of Malagash station and 1,170 feet east of mile post 30 from Oxford Junction.

146-B In west end of north face of cap-stone on north end of square stone culvert under Intercolonial railway, 2¼ miles west of Tatamagouche and 870 feet east of mile post 33 from Oxford Junction.

147-B In first course of stonework below coping, in north end of west face of retaining wall behind east abutment of Intercolonial railway bridge over Tatamagouche river, 2,000 feet east of Tatamagouche station.

148-B In first course below cap-stone, in south face of square stone culvert under Intercolonial railway, 3¼ miles east of Tatamagouche and 250 feet west of mile post 39 from Oxford Junction.

149-B In first course below cap-stone, in south face of square stone culvert under Intercolonial railway, ½ mile east of Denmark station.

150-B In third course below cap-stone, in south face of square stone culvert under Intercolonial railway, 1¾ miles west of River John station and ¼ mile west of mile post 46 from Oxford Junction.

151-B In second course of stonework below top, in south face of southeast retaining wall of Intercolonial railway bridge over the river John, 1¼ miles east of River John station.

152-B In top course of stonework, in south face of west abutment of open culvert under Intercolonial railway, 2,400 feet west of mile post 52 from Oxford Junction.

153-B In second course of stonework below concrete cap, in south face of west stone abutment of small plate-girder bridge on Intercolonial railway, 800 feet west of Meadowville station.

154-B In second course of stonework below top, in south face of west abutment of open culvert under Intercolonial railway, 2 miles west of Scotsburn station and about ½ mile east of mile post 58 from Oxford Junction.

155-B In first course below cap-stone, in north face of square stone culvert under Intercolonial railway, 1¼ miles east of Scotsburn station.

156-B In first course below cap-stone, in south face of square stone culvert under Intercolonial railway, 230 feet west of Lyon Brook station

157-B In first course below cap-stone, in east face of small stone culvert under Intercolonial railway, ½ mile south of Loch Broom station

158-B In second course of stonework below cap-stone, in west face of northwest retaining wall of small plate-girder bridge on Intercolonial railway, 400 feet south of Sylvester station

159-B In first course below cap-stone, in west face of square stone culvert under Intercolonial railway, 1½ mil north of Westville station and 2,350 feet north of mile post 4 from Stellarton

160-B In stone water-table course, in north wall of Intercolonial station-house at New Glasgow, 8 inches east of northwest corner of bay window

161-B In second course below top, in south face of square stone culvert under Intercolonial railway, 3 miles east of New Glasgow station and 2,700 feet east of mile post 45 from Truro

162-B In north foundation wall of Intercolonial station-house at Woodburn, 9 feet 6 inches west of northeast corner of building

163-B In third course of stonework above bridge-seat, in south end of east face of retaining wall behind west abutment of Intercolonial railway bridge over Sutherland creek, 1 mile west of West Merigomish station.

164-B In third course of stonework above bridge-seat, in north end of east face of retaining wall behind west abutment of plate-girder bridge over French river, 1,000 feet west of Merigomish station

165-B In second course below coping, in north face of square stone culvert under Intercolonial railway, 1 mile west of Piedmont station and 100 feet west of mile post 60 from Truro

166-B In top course of stonework, in north face of square stone culvert under Intercolonial railway, 1¾ miles east of Piedmont and 2,250 feet west of mile post 63 from Truro.

167-B In third course of stonework below top, in west end of north face of northwest retaining wall of Intercolonial railway bridge over west branch of Barney river, 1 mile east of Avondale station

168-B In exposed rock surface at north side of Intercolonial railway track, ¾ mile east of Marshy Hope station and 1,100 feet east of mile post 71 from Truro.

169-B In third course below top, in north face of square stone culvert under Intercolonial railway, 600 feet west of James River station.

170-B In top course of stonework, at north end of west face of east abutment of open culvert under Intercolonial railway, 1 mile west of Brierly Brook station and 2,300 feet east of mile post 77 from Truro

171-B In south face of first course of stonework—immediately underneath west end of plate-girder—of Intercolonial railway bridge, 3 miles west of Antigonish station and 700 feet west of mile post 81 from Truro

172-B In stone water-table course at west end of north wall of Intercolonial station-house at Antigonish.

173-B In third course of stonework below water-table course, in south (or front) wall of Antigonish post office, 3 feet west of west wall of clock tower.

174-B In first course below coping, in south face of square stone culvert under Intercolonial railway, 1¼ miles west of South River station and ¼ mile east of mile post 87 from Truro; this is the farther west of two culverts about 800 feet apart

175-B In first course below coping, in south face of square stone culvert under Intercolonial railway, ¾ mile east of Taylor Road flag station and ½ mile east of mile post 91 from Truro

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176-B In first course of stonework below coping, in south end of east face of retaining wall behind west abutment of plate-girder bridge over east branch of Pomquet river, 1 mile east of Pomquet station

177-B In third course of stonework above bridge-seat, in south end of east face of retaining wall behind west abutment of plate-girder bridge over Bayfield creek, ¾ mile east of Bayfield station.

178-B In first course below coping, in south face of small stone culvert under Intercolonial railway, close to Delorey flag station and 165 feet east of mile post 102 from Truro.

179-B In first course below cap-stone, in south face of small stone culvert under Intercolonial railway, 1¼ miles east of Tracadie station and 1,150 feet east of mile post 105 from Truro.

180-B In first course below coping, in south face of square dry stone culvert under Intercolonial railway, 1 mile west of Linwood station and 2,000 feet west of mile post 108 from Truro.

181-B In exposed rock surface at north side of Intercolonial railway track, 70 feet east of farm crossing and 380 feet west of mile post 111 from Truro

182-B In first course below cap-stone, in north face of square stone culvert under Intercolonial railway, 1¼ miles east of Harbour au Bouche station and 60 feet west of mile post 114 from Truro.

183-B In first course below coping, in north face of small stone culvert under Intercolonial railway, ¾ mile east of Cape Porcupine flag station and 2,400 feet west of mile post 118 from Truro.

184-B In second course of stonework above bridge-seat, in south end of west face of retaining wall behind east abutment of plate-girder bridge, 740 feet east of subway under Intercolonial railway and 1,800 feet east of mile post 120 from Truro

185-B In west wall of small power house at Mulgrave wharf—in concrete foundation—23 inches from northwest corner of building

BENCH-MARKS BETWEEN LENNOXVILLE AND STANSTEAD, QUEBEC, VIA BOSTON AND MAINE RAILROAD.

26 In top course of stonework, in northeast face of northwest wing-wall of large stone culvert under Boston and Maine railroad, ½ mile north of Capelton station.

27 In top course of stonework, in northwest face of northwest wing-wall of large stone culvert under Boston and Maine railroad, 1¼ miles north of North Hatley and 1,700 feet south of electric power-house.

27-A In first course of stonework below cap-stone, in east face of south abutment of square stone culvert under Boston and Maine railroad, 1¼ miles south of North Hatley and 3,930 feet south of Taylor's (private) wharf on lake Massawippi

28 In second course of stonework below top, in west face of south abutment of old stone and timber bridge (No. 114) on Boston and Maine railroad, about 2½ miles south of North Hatley.

28-A In top course of stonework, in west face of north abutment of small bridge on Boston and Maine railroad, 300 feet north of Massawippi station

28-A-2 In second course of concrete blocks below water-table, in south end of east wall of concrete building owned by A. E. Fish and containing Ayers Cliff post office—close to railway station.

29 In east side of small rock-cut on Boston and Maine railroad, ½ mile south of Ayers Cliff station and 300 feet south of first railway crossing from station

30 In first course of stonework below bridge-seat, in west face—6 feet 3 inches back from north face—of south abutment of Boston and Maine railroad bridge over the Tomifobia river, 1½ miles north of Lennoxville station

31 In north end of west face of cap-stone on west end of square stone culvert under Boston and Maine railroad, on curve, 2¼ miles south of Boynton station

32-A In first course below cap-stone, in east face of south abutment of rough stone culvert under Boston and Maine railroad, 1¾ miles north of Beebe Junction and 150 feet south of rock-cut on curve.

33-A In concrete bench-mark pier, 4 feet south of north line of Boston and Maine railroad right-of-way and 32 feet east of east side of station-house at Rock Island.

34 In east end of north face of cap-stone on north end of old stone culvert under Boston and Maine railroad, 45 feet east of water tank at Stanstead station

BENCH-MARKS BETWEEN LENNOXVILLE, QUEBEC, AND INTERNATIONAL BOUNDARY ABOUT 15 MILES EAST OF MEGANTIC, VIA CANADIAN PACIFIC RAILWAY

7-A In north side of second rock-cut on Canadian Pacific railway (about 900 feet) east of road leading to brick yard, 2¼ miles east of Lennoxville

8-A In north side of rock-cut on Canadian Pacific railway, 225 feet east of farm crossing and 580 feet east of sign board "Johnville, 1 mile"—west of station.

9-A In north side of rock-cut on Canadian Pacific railway—2 feet below rail level and 8 feet east of west end of cut—1¾ miles east of Johnville and 950 feet west of culvert at mileage 56.3 from Megantic.

10-A In small boulder 10 feet north of Canadian Pacific railway track, 350 feet west of highway crossing and ¼ mile west of Birchton station.

10-A-2 In north face of square concrete culvert under Canadian Pacific railway, ¾ mile east of Birchton station and at mileage 51.3 from Megantic

10-A-3 In second course of stonework below water-table course, in north end of east wall of Cookshire post office.

11-A In top course of stonework, in north face of northeast retaining wall of Canadian Pacific railway bridge over Eaton river, ½ mile east of Cookshire station.

12-A In boulder on south side of Canadian Pacific railway track, 6 feet southwest of south end of culvert at mileage 44.0 from Megantic.

13-A In exposed rock surface 12 feet south of Canadian Pacific railway track, about 1¾ miles west of Bury station and 160 feet east of culvert at mileage 40.2 from Megantic.

13-A-2 In south end of east face of concrete retaining wall behind east abutment of plate-girder bridge on Canadian Pacific railway, 1 mile east of Bury station and at mileage 37.3 from Megantic.

14-A In north face of exposed rock surface beside stream—low down—25 feet south of Canadian Pacific railway track and immediately southeast of culvert at mileage 35.0 from Megantic.

15-A-2 In concrete bench-mark pier, 4 feet north of south line of Canadian Pacific railway right-of-way and 312 feet east of east line of highway crossing at Gould flag station, 5¼ miles west of Scotstown.

16-A In north side of rock-cut on Canadian Pacific railway—25 feet from west end—1¼ miles west of Scotstown and 710 feet west of culvert at mileage 26.4 from Megantic.

16-A-2 In second course of stonework above bridge-seat, in south end of east face of retaining wall behind west abutment of Canadian Pacific railway bridge over Salmon river at Scotstown.

17-A In north side of rock-cut on Canadian Pacific railway—65 feet west of east end—2¼ miles east of Scotstown and 310 feet east of culvert at mileage 22.5 from Megantic, directly opposite large broken mass of rock on south side of track

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18 A In [illegible] of Canadian Pacific railway track, ¾ mile east of McLeod flag station and 240 feet east of mile post 18 from Megantic

18 A 2 In concrete bench-mark pier, 5 feet north of south line of Canadian Pacific railway right-of-way and 795 feet east of east side of Canadian Pacific railway water tank at Milan

19 A In north face of large granite boulder 35 feet south of Canadian Pacific railway track, 1¾ miles east of Milan and at sixth telegraph pole west of mile post 13 from Megantic

19 A 2 In south face of small concrete culvert under Canadian Pacific railway, ¼ mile west of Springhill station and at mileage 8·8 from Megantic

20 A In southwest face of boulder, partly in ditch, at south side of Canadian Pacific railway track, ½ mile east of Springhill station and 20 feet east of sixth telegraph pole east of mile post 8 from Megantic

21 A In south side of shallow rock-cut on Canadian Pacific railway, 260 feet west of farm crossing and 65 feet east of thirteenth telegraph pole east of mile post 4 from Megantic

21 A 2 In top course of stonework, in north foundation wall of tower of a large frame house, the residence of Dr. J. A. Milette, 85 feet south of Canadian Pacific railway main line and about 200 feet west of crossing of [illegible] street of Megantic

22 A In second course of stonework below top, in south face of retaining wall behind west abutment of Canadian Pacific railway bridge over Chaudière river, about 550 feet east of Megantic station.

23 A In west face of a regular, partly broken mass of rock, 12 feet south of Canadian Pacific railway track and 25 feet east of thirteenth telegraph pole east of Ditchfield station

24 A In west side of small boulder 25 feet north of Canadian Pacific railway track and 350 feet east of mile post 105 from Brownville Junction

24 A 2 In concrete bench-mark pier, 2 feet north of south line of Canadian Pacific railway right-of-way, 89 feet west of international boundary post and about 160 feet east of Boundary station-house.

27 A In small boulder 30 feet north of Canadian Pacific railway main line track, 23 feet east of international boundary post and about 270 feet east of Boundary station-house

BENCH-MARKS BETWEEN MEGANTIC AND LEVIS, QUEBEC, VIA QUEBEC CENTRAL RAILWAY TO HARLAKA JUNCTION AND INTERCOLONIAL RAILWAY TO LEVIS

186 B In east face, 1 foot below top, of south concrete abutment of steel trestle bridge over Moose river, on Quebec Central railway, 4¾ miles north of Megantic

187 B In west side of small rock-cut on Quebec Central railway, 1½ miles south of Ste. Cécile station and 180 feet north of mile post 51 from Tring Junction

188 B In north end of west face of square concrete culvert under Quebec Central railway, 1 mile south of St. Samuel station and 300 feet north of mile post 47 from Tring Junction

189 B In south end of east face of cap-stone on southeast retaining wall of Quebec Central railway bridge over Savage river, 2 miles north of St. Samuel station and 1,000 feet south of mile post 43 from Tring Junction

190 B In [illegible] of boulder 20 feet west of Quebec Central railway track, 1¾ miles north of St. Sebastian station and 3,250 feet north of mile post 40 from Tring Junction

191 B In first course of stonework below coping, in south face of southwest retaining wall of Quebec Central railway bridge over Blueberry river, 4½ miles south of Courcelles station

192-B In south face of boulder 10 feet west of Quebec Central railway track, 1¼ miles south of Courcelles station and 2,250 feet north of mile post 34 from Tring Junction

193-B In first course of stonework below coping, in north end of west face of northwest retaining wall of Quebec Central railway bridge over east branch of Blueberry river, 360 feet south of Courcelles station

194-B In north face of boulder, in ditch, 12 feet east of Quebec Central railway track, 4¼ miles north of Courcelles station and 1,200 feet south of mile post 28 from Tring Junction

195-B In south face of large flat boulder 15 feet east of Quebec Central railway track, ¾ mile south of St. Evariste station and 1,000 feet north of mile post 25 from Tring Junction

196-B In concrete bench-mark pier, 4 feet west of east line of Quebec Central railway right-of-way, 213 feet south of mile post 24 from Tring Junction, about 345 feet north of farm crossing and ¼ mile north of St Evariste station

197-B In south face of east retaining wall of square concrete culvert under Quebec Central railway, 3¾ miles south of St. Ephrem station and ½ mile south of mile post 20 from Tring Junction

198-B In south end of east face of southeast concrete retaining wall of plate-girder bridge on Quebec Central railway, ¾ mile north of St. Ephrem station; this is the farther south of two bridges about 300 feet apart.

199-B In exposed rock surface at east side of shallow cut on Quebec Central railway, 4¼ miles north of St. Ephrem station, 65 feet north of farm crossing and ¼ mile north of mile post 13 from Tring Junction

200-B In east face—1 foot below top—of south concrete abutment of Quebec Central railway bridge over Le Bras river, ¼ mile north of St. Victor station

201-B In west face—17 inches below top—of north concrete abutment of cattle-pass under Quebec Central railway, 2 miles north of St. Victor station and 1,550 feet south of mile post 8 from Tring Junction.

202-B In east face of boulder, in ditch, at west side of Quebec Central railway track, 540 feet north of mile post 5 from Tring Junction.

203-B In west face of half buried boulder 9 feet west of east line of Quebec Central railway right-of-way and 1,120 feet north of mile post 2 from Tring Junction

204-B In northeast stone foundation wall—27 inches northwest of east corner—of frame residence of Evangelin Vachon, 100 feet west of crossing of first street north of Quebec Central railway station at Tring Junction

205-B In east face of large mass of rock immediately west of Quebec Central railway track, 3¾ miles north of Tring Junction, 30 feet south of farm crossing and 1,440 feet south of mile post 93 from Sherbrooke

206-B In southwest face—13 inches below top of coping—of southwest concrete retaining wall of Quebec Central railway bridge over Cliche brook, 2¼ miles south of Valley Junction

207-B In west face of concrete retaining wall behind south abutment of plate-girder bridge in the yards of Quebec Central railway at Valley Junction, about ¼ mile north of station

208-B In west face of large mass of rock along east right-of-way fence of Quebec Central railway, 4¼ miles north of Valley Junction, 300 feet north of farm crossing and 1,140 feet south of mile post 103 from Sherbrooke

209-B In southeast face—9 inches below top—of southeast concrete wing-wall of small plate-girder bridge on Quebec Central railway, 200 feet south of highway crossing and ½ mile south of St. Mary station

210-B In east face—10 inches below top—of concrete retaining wall behind south abutment of subway under Quebec Central railway, 1¼ miles north of St. Mary

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211 B In concrete bench-mark pier, 5 feet west of east line of Quebec Central railway right-of-way, ¼ mile south of Scott station, 168 feet north of mile post 110 from Sherbrooke and about 120 feet south of a farm crossing

212 B In north face of very large boulder 22 feet west of Quebec Central railway track, 1,440 feet north of mile post 115 from Sherbrooke, and 1 mile south of Ste. Hénédine station

213 B In west face of large boulder, partly in ditch, at east side of Quebec Central railway track, 2 miles north of Ste. Hénédine station, 1,250 feet south of a culvert and 1,500 feet north of mile post 118 from Sherbrooke

214 B In east face of west concrete abutment of bridge upon which Grand Trunk Pacific railway crosses over Quebec Central railway, ¾ mile south of St. Anselme station. The bench-mark is about 1 foot above Quebec Central rails and directly beneath northerly girder of bridge

215 B In east face of boulder, partly buried, beside ditch at west side of Quebec Central railway track, 3¾ miles north of St. Anselme station and 1,470 feet north of mile post 125 from Sherbrooke

216 B In third course of stonework below water-table, in north wall—under second window from front—of Roman Catholic church at St. Henri village

217 B In west face of concrete side wall—1 foot north of south end—of Fairbanks standard track scales on Quebec Central railway siding at Carrier Junction, 400 feet south of station-house

218 B In top course of stonework, in east face of old stone culvert under Quebec Central railway, 2 miles south of Harlaka Junction and 1,650 feet south of mile post 136 from Sherbrooke.

219 B In third course of stonework below cap-stone, in north face of east abutment of (private) subway under Intercolonial railway, 1 mile west of Harlaka Junction.

220 B In second course of stonework below bridge-seat, in north face of east abutment of subway under Intercolonial railway, 2 miles east of Levis and 430 feet west of mile post 164 from Montreal.

221 B In second course of stonework below water-table course, in east wall of Levis post office, 3 feet 6 inches south of northeast corner of building

222 B In stone water-table course of south foundation wall—3 feet 6 inches west of main doorway—of power station of Dussault and Powers, on St. Laurent street, Levis.

BENCH-MARKS BETWEEN KEMPTON AND OTTAWA, ONTARIO, VIA CANADIAN PACIFIC RAILWAY.

113 A In north face of buttress, immediately north of main doorway and 2 feet above basement window sill of Sunday School hall adjoining Presbyterian church at Kemptville

114 A In south end of west face of square concrete culvert under Canadian Pacific railway, 2 miles north of Kemptville and at mileage 27 0 from Ottawa

115 A In south end of west face of double concrete culvert under Canadian Pacific railway, ½ mile north of Sabourin and at mileage 24 3 from Ottawa

116 A In south end of west face of square concrete culvert under Canadian Pacific railway, 2¾ miles south of Osgoode and at mileage 23 2 from Ottawa

117 A In first course of stonework below concrete blocks, in east wall—5 feet from northeast corner—of general store of Craig, Sons and Company, immediately east of Canadian Pacific railway track at Osgoode station

118 A In east wall of Osgoode Methodist church, 2 feet south of northeast corner and 9 inches above basement window sill

119 A In south end of west face of double concrete culvert under Canadian Pacific railway, 1¼ miles north of Osgoode and at mileage 18 9 from Ottawa

120-A In south end of west face of square concrete culvert under Canadian Pacific railway, ¾ mile south of Manotick and at mileage 13.3 from Ottawa

121 A In south end of west face of square concrete culvert under Canadian Pacific railway, ¾ mile south of Gloucester and at mileage 10 2 from Ottawa

122 A In south end of west face of square concrete culvert under Canadian Pacific railway, 2¼ miles south of Chaudière Junction and at mileage 6 5 from Ottawa

123 A In south face of west face-wall of concrete arch culvert under Canadian Pacific railway, 1¼ miles south of Chaudière Junction and at mileage 5.5 from Ottawa

124 A In third course of stonework below coping, in north end of west face of northwest retaining wall of bridge over Rideau river, on Prescott subdivision of Canadian Pacific railway, at mileage 2 65 from Ottawa

125 A In second course of stonework below water-table course, in south wall—16 feet from southeast corner of Dominion Astronomical Observatory, Ottawa

BENCH-MARKS BETWEEN COLBORNE, ONTARIO, AND TORONTO, VIA GRAND TRUNK RAILWAY

167 In west face of southwest cap-stone of cattle-pass under Grand Trunk railway, 3¼ miles west of Colborne and 540 feet east of mile post 81 from Toronto

168 In second course of stonework below cap-stone, in north end of east face of west abutment of open culvert under Grand Trunk railway, immediately west of second highway crossing (about ¾ mile) west of Grafton station

169 In fifth course of stonework below top, in northwest end of northeast face of northwest wing-wall of open culvert under Grand Trunk railway, 2 miles east of Cobourg station and 850 feet west of mile post 72 from Toronto.

170 In third course below top, in west end of south face of square stone culvert under Grand Trunk railway, 3 miles west of Cobourg station and 100 feet west of mile post 67 from Toronto

171 In north face of corner stone—9 inches above sidewalk—at northwest corner of Cobourg town hall.

172 In fourth course of stonework above sidewalk, in west end of south wall of Port Hope town hall

172 A In south face of corner stone—first course above sidewalk at southwest corner of Port Hope post office.

173 In west face of corner stone—first course above wooden platform at northwest corner of Grand Trunk station-house at Port Hope Junction.

174 In northwest face of top course of stonework of northwest wing-wall of subway under Grand Trunk railway, 4¼ miles west of Port Hope Junction, and 500 feet west of mile post 59 from Toronto

175 In first course below cap-stone, in south face of square stone culvert under Grand Trunk railway, 700 feet west of Newtonville.

175 A In second course below coping, in north face of small stone culvert under Grand Trunk railway, 2½ miles east of Newcastle, 250 feet east of a highway crossing and 1,500 feet east of mile post 50 from Toronto.

176 In first course of stonework below bridge-seat, in north face of west abutment of subway under Grand Trunk railway, ¼ mile east of Newcastle

176 A In northwest face of third course below coping, in northwest wing-wall of stone arch subway under Grand Trunk railway, 1¼ miles east of Bowmanville.

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177 In south wall of Grand Trunk station-house at Bowmanville, immediately east of doorway of general waiting-room and in first stone above door sill

178 In north face of second course below coping, in northeast retaining wall of stone arch subway under Grand Trunk railway, 1 3 miles west of Darlington

178 A In west wall of Oshawa post office, corner of King and Wellington streets, 1 foot 6 inches above ground and 14 feet south of northwest corner of building

179 In stone foundation, at north end of west wall of Grand Trunk station-house at Oshawa Junction

179 A In third course of stonework below brickwork, in southwest face of pilaster at southwest corner of main tower of Presbyterian church, Simcoe street, Oshawa

180 In second course of stonework above bridge-seat, in north face of retaining wall behind east abutment of plate girder bridge on Grand Trunk railway, 1¼ miles west of Whitby Junction.

180 A In second course of stonework above ground, in west end of south wall of St. John's church, ¼ mile southeast of Whitby Junction

180 A 2 In first course of stonework below coping, in north face—second stone from east end—of northeast retaining wall of Grand Trunk railway bridge over Pickering creek, ½ mile east of Pickering station.

181 In second course below coping, in north face of northeast wing-wall of stone arch subway under Grand Trunk railway, ¼ mile west of Dunbarton

182 In first course of stonework above ground, in northerly part of masonry base of Grand Trunk railway water tank at Port Union

183 In third course below top, in south face of small stone culvert under Grand Trunk railway, 1½ miles east of Scarboro Junction and 400 feet east of highway crossing.

185 In stone water-table course, at north end of east (or front) wall of Grand Trunk station-house, Riverdale

186 In stone water-table course, at east end of south wall of post office elevator at east end of Toronto Union station—immediately west of York street bridge

187 In first course of stonework above ground, in east wall of Toronto city hall, 57 feet north of southeast corner of building

188 In first course of stonework above ground, in west wall of Toronto Parliament buildings, 1 foot south third window from southwest corner of building

188 A In first course of stonework above ground, in east wall of Toronto Parliament buildings, immediately north of first window from southeast corner of building

189 In second course of stonework above platform, in north wall of Canadian Pacific station-house at North Toronto—west of Yonge street—7 feet 6 inches from northeast corner of building

BENCH-MARKS BETWEEN TORONTO AND WINDSOR, ONTARIO, VIA GRAND TRUNK RAILWAY, THROUGH HAMILTON, BRANTFORD, LONDON AND CHATHAM

190 In second course of stonework below coping, in southeast face of south retaining wall of old Grand Trunk railway bridge over the Humber river, immediately northwest of the main line double-track bridge and 4¾ miles southwest of Toronto Union station

191 In northeast face of cap-stone on east retaining wall of Grand Trunk railway bridge over Etobicoke creek, 9¼ miles southwest of Toronto Union station

192 In southwest face of cap-stone on southeast end of square stone culvert under Grand Trunk railway, 1,000 feet southwest of Clarkson.

193 In southwest face of cap-stone on west retaining wall of Grand Trunk railway bridge over Sixteenmile creek, ¼ mile southwest of Oakville.

194 In north face of top course of stonework of north wing-wall of plate-girder bridge on Grand Trunk railway, 1¼ miles northeast of Bronte and 700 feet southwest of mile post 15 from Hamilton.

195 In first course of stonework below coping, in southwest face of south retaining wall of plate-girder bridge on Grand Trunk railway, 1¾ miles southwest of Bronte.

196 In second course below top, in southeast face of northeast abutment of square stone culvert under Grand Trunk railway, ¼ mile southwest of Burlington Junction and immediately northeast of diagonal highway crossing.

197 In first course of stonework below coping, in southwest face of south retaining wall of subway under Grand Trunk railway, 2 miles southwest of Waterdown and 200 feet southwest of signal house at "Junction Cut."

215 In first course of stonework above ground, in south face—thirty inches from west end—of north abutment of overhead bridge on Grand Trunk railway, 1 mile east of Dundas station.

216 In north end of west face of concrete retaining wall behind east abutment of subway under Grand Trunk railway, 2 miles west of Dundas station and 1,000 feet west of mile post 52 from Suspension bridge.

216-A In south end of east face of concrete retaining wall behind west abutment of subway under Grand Trunk railway, ¼ mile west of Copetown station.

217 In first course of stonework below cap-stone, in south face of east abutment of subway under Grand Trunk railway, ½ mile east of Lynden station and 150 feet west of mile post 59 from Suspension bridge.

218 In north face of coping—second stone from west end—of northwest retaining wall of long steel trestle bridge on Grand Trunk railway, ¼ mile west of Alford.

219 In first course of stonework above concrete platform, at west end of north wall of Canadian Express building at Grand Trunk station, Brantford.

220 In second course of stonework below water-table course, at west end of south wall of Brantford post office.

220-A In north end of west face of concrete retaining wall behind east abutment of subway under Grand Trunk railway, 3 miles west of Brantford and 150 feet west of "Block B."

221 In north face of concrete coping on top of northeast retaining wall of (farm lane) subway under Grand Trunk railway, 1¼ miles east of Paris station and at point where Grand Valley Electric railway branches away from beside Grand Trunk railway.

222 In first course of stonework above concrete platform, in north wall of Grand Trunk station-house at Paris, below easterly window of waiting-room.

223 In first course of stonework above bridge-seat, in north end of west face of retaining wall behind east abutment of large bridge on Grand Trunk railway, 3¾ miles west of Paris station.

224 In second course of stonework below top, in north face of curved northeast retaining wall of plate-girder bridge on Grand Trunk railway, ¾ mile west of Princeton.

225 In first course of stonework above bridge-seat, in north end of west face of retaining wall behind east abutment of Grand Trunk railway bridge, ¾ mile east of Eastwood and at mile post 86 from Suspension bridge.

226 In south face of stone base supporting northeast steel column of overhead bridge, 450 feet west of Grand Trunk station at Woodstock.

227 In first course of stonework above sidewalk, in east wall of Woodstock post office, between north and south doors.

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228 In north end of east face of west concrete abutment of open culvert under Grand Trunk railway, 2·6 miles west of Woodstock and 950 feet east of mile post 94 from Suspension bridge

229 In north end of east face of top course of stonework, in west abutment of open culvert under Grand Trunk railway, 1 mile east of Ingersoll

230 In front wall of Ingersoll post office, directly below letter-drop

231 In north face of second course of stonework above bridge-seat, in northeast retaining wall of two-span plate-girder bridge on Grand Trunk railway, about 4¾ miles west of Ingersoll, immediately west of long curve

232 In east face of first course of stonework below cap-stone on south end of stone arch culvert under Grand Trunk railway, 2½ miles east of Dorchester

233 In north end of west face of west abutment of concrete arch culvert under Grand Trunk railway, 1 mile west of Dorchester and 830 feet west of mile post 111 from Suspension bridge

234 In north face of small concrete culvert under Grand Trunk railway, 4¾ miles east of London and 80 feet west of mile post 115 from Suspension bridge

235 In south face of southeast concrete pier supporting Grand Trunk railway water tank, ¼ mile east of London East, on north side of railway

236 In second course of stonework above sidewalk, at west end of south wall of customs house, corner of Queens avenue and Richmond street, London

236 A In northeast face of concrete course—below bridge-seat—on top of west abutment of diagonal subway under Grand Trunk railway, 1½ miles east of Hyde Park Junction

237 In second course of stonework below top, in southeast end of southwest face of northeast abutment of open culvert under Grand Trunk railway, 2¾ miles southwest of Hyde Park Junction and 1,400 feet northeast of mile post 127 from Suspension bridge

237 A In northwest end of southwest face of concrete retaining wall behind northeast abutment of subway under Grand Trunk railway, at mile post 129 from Suspension bridge, ¾ mile northeast of Komoka.

238 In first course of stonework below bridge-seat, in southeast face of northeast abutment of subway under Grand Trunk railway, 2¼ miles southwest of Komoka and 200 feet northeast of mile post 132 from Suspension bridge

239 In third course below coping, in southwest face of south retaining wall of stone arch culvert under Grand Trunk railway, 1½ miles northeast of Longwood and 100 feet northeast of mile post 139 from Suspension bridge

239 A In second course below coping, in southeast face of south retaining wall of square stone culvert under Grand Trunk railway, about 1 mile southwest of Longwood and 1,700 feet southwest of first highway crossing from station

240 In fourth course below top, in east face of south wing-wall of square stone culvert under Grand Trunk railway, ½ mile southwest of Appin and 275 feet southwest of mile post 146 from Suspension bridge.

240 A In second course below coping, in south face of south wing-wall of stone arch culvert under Grand Trunk railway, 1¼ miles southwest of Appin and 1,080 feet northeast of mile post 147 from Suspension bridge.

241 In third course of stonework below brickwork, in southeast end of southwest wall of Glencoe town hall.

241 A In second course of stonework below brickwork, in northeast end of southeast wall of Glencoe post office tower

242 In northeast end of southeast stone foundation wall of Heatherington's flour mill, Newbury, about 300 feet north of Grand Trunk station

243 In northeast end of top step—5 inches back from face of step and 5 inches below top—of lower flight of concrete steps leading to Bothwell English church, about ¼ mile west of Grand Trunk railway station.

243-A In first course of stonework above ground, in southwest end of southeast wall of tower of Thamesville Roman Catholic church

244 In first course of stonework above bridge-seat, in southeast face of retaining wall behind northeast abutment of Grand Trunk railway bridge over Thames river, 1 mile southwest of Thamesville station

245 In second course of stonework below coping, in southeast face of northeast abutment of subway under Grand Trunk railway, ¼ mile northeast of Northwood

246 In second course below coping, in south face of south wing-wall of stone arch culvert under Grand Trunk railway, ¼ mile northeast of Vosburg and 120 feet northeast of mile post 51½ from Windsor.

246-A In northeast end of face of stone door sill at main door of baggage room of Grand Trunk station-house, Chatham.

247 In southwest end of cap-stone on west retaining wall of Grand Trunk railway bridge over Thames river, ¼ mile northeast of Chatham Junction

247-A In second course of stonework above sidewalk, in east wall of Chatham post office, 3 feet north of southerly doorway.

248 In third course of stonework below top, in southeast end of northeast face of southwest abutment of Canadian Pacific railway culvert at mileage 68·6 from London, 240 feet northeast of diamond crossing of Canadian Pacific railway and Grand Trunk railway, 4¼ miles west of Chatham.

248-A In south end of west concrete foundation wall of frame grain elevator, about 100 feet northeast of Prairie Siding station.

249 In north end of west face of concrete retaining wall behind east abutment of six-span (plate-girder) bridge on Grand Trunk railway, 1½ miles east of Jeannette station.

249-A In south face of concrete block on top of south end of third pier from east abutment of five-span (plate-girder) bridge on Grand Trunk railway, 1 mile west of Jeannette station.

250 In eighth course of stonework below brickwork, in east wall—4 feet from southeast corner—of Stoney Point Roman Catholic church, immediately north of Grand Trunk railway.

251 In first course of stonework below bridge-seat, in south end of west face of east abutment of three-span (plate-girder) bridge on Grand Trunk railway, 1¼ miles west of St. Clair station.

252 In northwest face of northeast concrete retaining wall of Grand Trunk railway bridge over Belle river, ¼ mile west of Belle River station.

252-A In south end of east face of west concrete abutment of Grand Trunk railway bridge, about 1,100 feet east of Puce.

253 In second course of stonework below bridge-seat, in southeast face of southeast retaining wall of Grand Trunk railway bridge, 300 feet east of Pike Creek station.

254 In first course of stonework below bridge-seat, in southwest face of southeast retaining wall of Grand Trunk railway bridge, 2 miles west of Tecumseh.

254-A In south face of small concrete culvert under Grand Trunk railway, 2·4 miles east of Walkerville station and 1,080 feet east of mile post 3½ from Windsor.

255 In second course above sidewalk, in north face of corner stone at northeast corner of southerly section of Windsor post office.

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BENCH-MARKS BETWEEN TORONTO AND OWEN SOUND, ONTARIO, VIA CANADIAN PACIFIC RAILWAY THROUGH BOLTON AND ORANGEVILLE

256 In third course of stonework above bridge-seat, in northeast end of southeast face of retaining wall behind northwest abutment of Canadian Pacific railway bridge over Black creek, at mileage 1·6 northwesterly from West Toronto

256-A In first course of stonework below brickwork, in northeast end of rear (or northwest) wall of Weston public school

256-A-2 In northeast end of northwest face of southeast abutment of small concrete culvert under Canadian Pacific railway, 1,800 feet southeast of Emery station

257 In third course of stonework above bridge-seat, in southwest end of northwest face of retaining wall behind southeast abutment of Canadian Pacific railway bridge over the Humber river, 1½ miles southeast of Woodbridge station

257-A In southwest face of square concrete culvert under Canadian Pacific railway, about ¾ mile southeast of Elder and at mileage 13·4 from West Toronto

258 In face of west wing-wall of concrete arch culvert under Canadian Pacific railway, about ½ mile southeast of Kleinburg and at mileage 16·3 from West Toronto.

259 In face of west wing-wall of concrete arch culvert under Canadian Pacific railway, 2 miles southeast of Bolton and at mileage 19·5 from West Toronto.

260 In north face of small square concrete culvert under Canadian Pacific railway, at mileage 1·1 westerly from Bolton

261 In second course below top, in east end of north face of old stone culvert under Canadian Pacific railway at mileage 3·9 from Bolton

262 In third course below top, in north face of west abutment of old stone and timber subway under Canadian Pacific railway, immediately east of crossing of Grand Trunk railway, Hamilton—Allandale line and at mileage 7·4 from Bolton

263 In north face of small square concrete culvert under Canadian Pacific railway, 4 miles west of Mono Road station and at mileage 10·1 from Bolton.

264 In south end of east face of concrete retaining wall behind west abutment of small plate-girder bridge on Canadian Pacific railway, 1½ miles east of Caledon and at mile post 13 from Bolton.

265 In southeast face of diagonal concrete culvert under Canadian Pacific railway—at highway crossing ¼ mile west of Caledon and at mileage 15·5 from Bolton.

266 In west face of stone block supporting southerly post of eastern trestle of timber bridge on Canadian Pacific railway over the Credit river, ¼ mile west of Melville Junction.

267 In corner stone of first course below water-table course, in east end of north wall of Orangeville post office

268 In third course below coping, in north face of square stone culvert under Canadian Pacific railway, ½ mile east of Fraxa Junction and at mileage 24·3 from Bolton.

269 In east end of north face of south abutment of concrete culvert under Canadian Pacific railway, 0·3 mile south of Laurel and at mileage 28.7 from Bolton

269-A In east face of small concrete culvert under Canadian Pacific railway, 2·2 miles north of Laurel and at mileage 31·2 from Bolton.

270 In second course of stonework below coping, in face of northwest retaining wall of open culvert under Canadian Pacific railway, 1 mile north of Crombies and at mileage 34·4 from Bolton.

270 A In concrete bench-mark pier at Crombies station, 6 feet west of east line of Canadian Pacific railway right-of-way and 195 feet south of intersection of east fence of right-of-way with southwest fence of road to Shelburne

271 In top course of stonework, in north foundation wall of Shelburne post office, 5 feet 9 inches from northwest corner of building

271 A In third course below top, in face of southeast wing-wall of old stone and timber culvert under Canadian Pacific railway, 1 mile south of Melancthon and at mileage 40·3 from Bolton.

272 In east face of square concrete culvert under Canadian Pacific railway, 1 mile north of Melancthon and at mileage 42·4 from Bolton

273 In fourth course below top, in face of southeast retaining wall of old stone and timber culvert under Canadian Pacific railway, ¾ mile north of Corbetton and at mileage 45·9 from Bolton

275 A In east end of south face of concrete retaining wall behind north abutment of plate-girder bridge on Canadian Pacific railway, 1¼ miles north of Corbetton and at mileage 46·5 from Bolton

274 In third course below top, in east end of north face of south abutment of old stone and timber culvert under Canadian Pacific railway, 1 mile south of Dundalk and at mileage 48·2 from Bolton

275 In fourth course below top, in east end of north face of south abutment of old stone and timber bridge on Canadian Pacific railway, 1·3 miles south of Proton and at mileage 52·9 from Bolton

276 In first course of stonework below coping, in east end of south face of retaining wall behind north abutment of Canadian Pacific railway bridge over the south branch of Saugeen river at Saugeen Junction.

277 In north end of east face of concrete arch culvert under Canadian Pacific railway, ¾ mile north of Flesherton and at mileage 60·4 from Bolton

278 In east face of concrete culvert under Canadian Pacific railway, 1 mile south of Markdale and at mile post 65 from Bolton.

279 In concrete bench-mark pier, 435 feet south of south line of Main street, Markdale, immediately southeast of Canadian Pacific railway station-house and 40 feet west of east line of right-of-way.

280 In third course below top, in face of southeast wing-wall of old stone and timber culvert under Canadian Pacific railway, 2¾ miles north of Markdale and at mileage 68·7 from Bolton

281 In second course below coping—third stone from end of steel girder—in east face of southeast retaining wall of Canadian Pacific railway bridge over north branch of Saugeen river, ½ mile south of Holland Centre and at mileage 75 from Bolton

282 In east end of north face of south abutment of square concrete culvert under Canadian Pacific railway, 3¼ miles south of Chatsworth and at mileage 79·1 from Bolton

283 In concrete bench-mark pier, 6 feet east of west line of Canadian Pacific railway right-of-way, 950 feet north of Chatsworth station and 25 feet south of a farm crossing

284 In east face of square concrete culvert under Canadian Pacific railway, 0·3 mile south of Rockford and at mileage 87·1 from Bolton

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285 In second course below coping, in northeast face of southeast retaining wall of old stone and timber culvert under Canadian Pacific railway, immediately south of "St. Vincent Road" and at mileage 91·2 from Bolton

286 In third course of stonework above ground, in west wall—5 feet from northwest corner—of post office, corner of Third avenue east and Ninth street east, Owen Sound

287 In north face of stone plinth course of pilaster at northeast corner of Owen Sound town hall—on Second avenue east

288 In third course of stonework below brickwork, in east end of south wall of Owen Sound fire station, immediately northwest of town hall

BENCH-MARKS BETWEEN OWEN SOUND AND HYDE PARK JUNCTION, ONTARIO, VIA GRAND TRUNK RAILWAY THROUGH PALMERSTON, WINGHAM AND LUCAN CROSSING, WITH BRANCH LINE FROM CLINTON TO GODERICH

289 In northwest face—9 feet 6 inches from northeast end—of southeast concrete abutment of small bridge on Grand Trunk railway, immediately southeast of highway crossing and 1¾ miles northwest of Owen Sound station

289 A In east end of north foundation wall of Union church, Ben Allen, 100 feet south of Grand Trunk railway.

290 In south face of east abutment—16 inches below steel girder—of concrete bridge over creek on Princess street, village of Shallow Lake

291 In second course of stonework below brickwork, in south end of west wall of schoolhouse number 16, at Park Head Junction, ¼ mile east of Grand Trunk railway

292 In south face of north abutment—20 inches from corner of northeast wing-wall—of concrete culvert under Grand Trunk railway, 1,000 feet north of Allenford

293 In second course of stonework below top, in southeast end of northeast face of east retaining wall of highway bridge, 300 feet west of Tara station

294 In concrete bench-mark pier, 7 feet west of east line of Grand Trunk railway right-of-way, 130 feet south of mile post 143½ from Port Dover and about ¼ mile south of Dobbinton station.

295 In west face of concrete retaining wall behind south abutment of Grand Trunk railway bridge over north branch of Saugeen river, ¼ mile north of Chesley station

296 In second course of stone below wood work, in west wall of Grand Trunk station-house at Chesley, 12 feet 6 inches north of waiting-room door

297 In concrete bench-mark pier, 5 feet east of west line of Grand Trunk railway right-of-way, 480 feet south of a farm crossing, 210 feet south of mile post 131½ from Port Dover and about ¾ mile south of Elmwood station

298 In west face of concrete retaining wall behind north abutment of Grand Trunk railway bridge over south branch of Saugeen river, 900 feet north of Hanover station

299 In concrete foundation of north wall of Grand Trunk station-house at Hanover, 17 inches east of northwest corner of building and 2 inches below concrete blocks

300 In face of northeast concrete retaining wall of steel highway bridge over creek, 250 feet west of Grand Trunk railway track, 900 feet south of mile post 122½ from Port Dover and 2¼ miles north of Neustadt

301 In west face of north concrete abutment—25 inches from front of abutment and 17 inches below top—of Grand Trunk railway bridge, 1¾ miles south of Neustadt and 800 feet south of mile post 118 from Port Dover

302 In concrete bench-mark pier, 10 feet east of west line of Grand Trunk railway right-of-way, 225 feet south of mile post 111¼ from Port Dover and ¾ mile north of Drew flag station

303 In west face of north concrete abutment—2 feet 10 inches below bridge-seat—of plate-girder bridge on Grand Trunk railway, 500 feet north of Harriston station

304 In concrete foundation of Grand Trunk station-house at Harriston, in centre of front wall of bay window of telegraph office and 6 inches below stonework

305 In second course of stonework above ground, in west wall of pilaster at southwest corner of porch of public library and post office building at Palmerston

306 In concrete bench-mark pier, 4 feet northwest of southeast line of Grand Trunk railway right-of-way, 160 feet northeast of a trestle bridge and 940 feet northeast of mile post 3 from Palmerston

307 In west wall of Christ church—18 feet north of tower and 2 feet above ground—at corner of Raglan street and Main street west, Listowel

308 In second course of concrete blocks above ground, in north end of west wall of public library, Main street west, Listowel

309 In south concrete foundation wall—2 feet 6 inches from southeast corner and 2 feet above ground—of grain elevator opposite Grand Trunk station at Atwood

310 In west face of south concrete wing-wall of plate-girder bridge on Grand Trunk railway, ¼ mile southeast of Henfryn station

311 In second course of stonework above bridge-seat, in northeast end of northwest face of retaining wall behind southeast abutment of Grand Trunk railway bridge over Maitland river, ¼ mile northwest of Ethel station

312 In fourth course of concrete blocks below brickwork, in south wall of Brussels public library, 3 feet east of southwest corner of building

313 In second course of stonework above bridge-seat, in southwest end of northwest face of retaining wall behind southeast abutment of Grand Trunk railway bridge over Maitland river, ¼ mile northwest of Bluevale station

314 In third course of stonework above sidewalk, in west end of north wall of Wingham post office

315 In second course of stonework below coping, in west face of northwest retaining wall of Grand Trunk railway bridge over Maitland river, 500 feet north of mile post 3 from Wingham Junction

316 In third course of stonework above ground, in east wall of porch of Presbyterian church, Belgrave—2 feet 4 inches south of front wall of church

317 In north face of concrete coping on east end of Canadian Pacific railway subway under Grand Trunk railway, at mileage 78·5 from Guelph Junction and 800 feet north of Grand Trunk station at Blyth

318 In first course of stonework above bridge-seat, in east end of south face of retaining wall behind north abutment of plate-girder bridge on Grand Trunk railway, ¾ mile south of Londesborough and at mile post 17 from Wingham Junction

319 In second course below coping, in east face of southeast wing-wall of stone arch culvert under Grand Trunk railway, 2¼ miles north of Clinton Junction and 2,000 feet south of mile post 21 from Wingham Junction

RDL

320 In third course of stonework below brickwork, in west wall of Clinton post office—9 feet north of southwest corner of building

321 In second course below coping, in southeast end of northeast face of old stone arch culvert under Stratford-Goderich line of Grand Trunk railway, 230 feet southeast of Clinton Junction.

322 In second course of stonework above bridge-seat, in southwest end of northwest face of retaining wall behind southeast abutment of second subway under Grand Trunk railway, (950 feet) northwest of Holmesville flag station

323 In first course of stonework above bridge-seat, in southwest end of northwest face of retaining wall behind southeast abutment of farm subway under Grand Trunk railway, 3 miles northwest of Holmesville flag station

324 In third course below coping, in north end of west face-wall of stone arch culvert under Grand Trunk railway, 2¼ miles from Goderich station and 670 feet north of mile post 4 from Goderich wharf.

325 In stone water-table course, at east end of south wall of Grand Trunk station-house at Goderich

326 In second course of stonework above ground, in south face of pilaster immediately north of large doorway in eastern wall of Goderich court house

327 In north wall of Goderich post office—14 inches above ground and 19 inches east of stairway leading to westerly doorway

328 In second course below coping, in east face of southeast wing-wall of stone arch culvert under Gran Trunk railway, 2¾ miles south of Clinton Junction

329 In second course below coping, [illegible] face of southeast wing-wall of stone arch culvert under Grand Trunk railway, 1 mile north of [illegible] and 150 feet north of mile post 29 from Wingham Junction.

330 In first course of stonework above bridge-seat, in east face of southeast retaining wall of plate-girder bridge on Grand Trunk railway, ¼ mile north of Kippen

331 In concrete bench-mark pier, 6 feet west of east line of Grand Trunk railway right-of-way, 1½ miles south of Hensall station and 758 feet south of south line of second highway crossing from station.

332 In first course of stonework above bridge-seat, in east end of north face of retaining wall behind south abutment of four-span plate-girder bridge on Grand Trunk railway, ½ mile north of Exeter station.

333 In west foundation wall of English church, Exeter—1 foot 6 inches below brickwork and 3 feet 3 inche north of north wall of tower

334 In first course of stonework above bridge-seat, in east end of south face of retaining wall behind nort abutment of plate-girder bridge on Grand Trunk railway, 2¾ miles south of Exeter and 1,600 fe north of mile post 45 from Wingham Junction

335 In second course of stonework below coping, in east face of southeast wing-wall of arch culvert unde Grand Trunk railway, 1¾ miles south of Centralia and 2,000 feet north of mile post 49 from Wingha Junction

336 In second course of stonework below coping, in east face of southeast wing-wall of arch culvert und Grand Trunk railway, 3½ miles south of Centralia

337 In third course of stonework above ground, in west face—11 feet from north end—of northeast wing-wall Grand Trunk railway subway at Lucan Crossing

338 In concrete bench-mark pier, 7 feet west of east line of Grand Trunk railway right-of-way, 355 feet nor of first farm crossing (about 0·3 mile) south of Denfield and 123 feet south of mile post 11 from Hy Park Junction

339 In first course of concrete blocks above ground, in west wall of Ilderton Methodist church, in eighth block from northwest corner of building.

340 In east end of north face of small concrete culvert under highway, 700 feet west of Grand Trunk railway track and about 1 mile north of Ettrick.

341 In second course of stonework above ground, in southwest face of rounded corner of east abutment of subway by which Grand Trunk railway, London-Wingham line, passes under main line of Canadian Pacific railway, immediately north of Hyde Park Junction.

BENCH-MARKS BETWEEN HAMILTON AND BRIDGEBURG, ONTARIO, VIA GRAND TRUNK RAILWAY THROUGH MERRITTON AND WELLAND JUNCTION.

198 In second course of stonework below coping, in north end of west face of northwest retaining wall of Grand Trunk railway bridge over Desjardins canal, 1½ miles northwest of Grand Trunk station at Hamilton and immediately south of junction of Toronto, Hamilton and Buffalo railway.

199 In second course of stonework above sidewalk, at east end of south wall of clock tower of Hamilton city hall.

200 In north end of east face of west concrete abutment of subway through which the radial railway to Burlington passes under Grand Trunk railway, about 1½ miles east of Grand Trunk station at Hamilton.

201 In north face of northwest cap-stone of subway under Grand Trunk railway, at Stoney Creek station.

202 In east face of cap-stone on north end of square stone culvert under Grand Trunk railway, ¼ mile west of Winona station.

203 In north face of top course of stonework, in east abutment of subway under Grand Trunk railway, ¼ mile west of Grimsby station.

204 In north face of top course of stonework, in east abutment of open culvert under Grand Trunk railway, ¾ mile east of Beamsville station.

205 In east face of coping stone on northeast retaining wall of Grand Trunk railway bridge over Twentymile creek, immediately west of Jordan station.

206 In top course of stonework, at north end of west face of east abutment of open culvert under Grand Trunk railway, 1½ miles west of St. Catharines and beside highway crossing.

207 In third course of stonework below water-table course, in north face of pilaster at northwest corner of St. Catharines post office.

208 In west face of third corner stone below water-table course, at southwest corner of St. Catharines court house.

209 In third course of stonework below top, in south end of west face of east abutment of Grand Trunk railway swing bridge over old Welland canal, 800 feet west of Merritton station.

210 In stone water-table course, at north end of east wall of water-works pump house, Front street, Thorold.

211 In north end of west face of concrete pier, 50 feet east of Grand Trunk railway swing bridge over Welland canal, 1 mile south of Thorold station.

212 In centre of west face of northeast retaining wall of Grand Trunk railway swing bridge, 900 feet south of Port Robinson station.

RDI

213 In stone water-table course at east end of south wall of registry office at Welland.

214 In third course of stonework below top, in south face of southeast retaining wall of Grand Trunk railway swing bridge over Welland canal, ½ mile west of Welland Junction

213 A In west end of south wall of brick school-house in "School section No. 9, Humberstone," about ¾ mile north of Grand Trunk railway and ½ mile west of Robbins station.

214 A In south face of concrete cap on south end of concrete arch culvert under Michigan Central railroad, 2½ miles west of Bridgeburg and immediately west of diagonal highway crossing.

215 A In fifth course of stonework below bridge-seat in north end of east face of west abutment—at Canadian end—of International Bridge at Bridgeburg.

BENCH-MARKS BETWEEN BOLTON AND BALA, ONTARIO, VIA CANADIAN PACIFIC RAILWAY.

374 In south end of east face of small concrete arch culvert under Canadian Pacific railway, ½ mile north of Humber station and at mileage 26·5 from West Toronto.

375 In north face of concrete coping on east end of concrete arch subway under Canadian Pacific railway, 200 feet north of Cedar Mills flag station and at mileage 28·8 from West Toronto.

376 In north end of east face of concrete arch culvert under Canadian Pacific railway, ½ mile north of Palgrave and at mileage 31·8 from West Toronto.

377 In north end of east face of concrete arch culvert under Canadian Pacific railway, 1½ miles north of Palgrave and at mileage 32·9 from West Toronto.

377-A In east foundation wall of Tottenham Methodist church, 2 feet above ground and 2 feet 6 inches south of first basement window behind church tower.

378 In north face of concrete coping on east end of large concrete arch culvert under Canadian Pacific railway, 1 mile north of Tottenham and at mileage 36·4 from West Toronto.

379 In southeast face of southeast concrete wing-wall—7 feet below bridge-seat—of subway by which Grand Trunk railway passes under Canadian Pacific railway, 1 mile south of Beeton and at mileage 37·9 from West Toronto.

380 In south end of east face of small concrete arch culvert under Canadian Pacific railway, 1¼ miles north of Beeton and at mileage 40·1 from West Toronto.

381 In east face—2 feet 6 inches below bridge-seat—of south concrete abutment of Canadian Pacific railway bridge over Nottawasaga river, 2¼ miles south of Alliston and at mileage 42·9 from West Toronto.

382 In east end of north face of concrete block on top of southerly pier of Canadian Pacific railway bridge over Boyne river, ¼ mile north of Alliston station.

383 In stone foundation of south wall of Alliston town hall, 2 feet 8 inches below brickwork and 4 feet from southwest corner.

384 In east face of square concrete culvert under Canadian Pacific railway, 3¼ miles north of Alliston and at mileage 48·5 from West Toronto.

385 In north end of east face of concrete arch culvert under Canadian Pacific railway, ¾ mile north of Baxter and at mileage 52·6 from West Toronto.

386 In south end of east face of concrete arch culvert under Canadian Pacific railway, 2 miles south of Utopia and at mileage 56·9 from West Toronto.

387 In east face of small concrete arch culvert under Canadian Pacific railway, 1 mile north of Utopia and at mileage 59·9 from West Toronto

388 In south end of west face of square concrete culvert under Canadian Pacific railway, 0·3 mile north of Mac flag station and at mileage 63·7 from West Toronto

389 In north end of east face of concrete arch culvert under Canadian Pacific railway, 1½ miles south of Midhurst and at mileage 65·8 from West Toronto

390 In east end of south face of retaining wall behind north abutment of long steel trestle bridge on Canadian Pacific railway, over Willow creek, 1 mile north of Midhurst

391 In north end of east face of large concrete arch culvert under Canadian Pacific railway, 3·3 miles south of Craighurst and at mileage 70·6 from West Toronto

392 In north end of east face of concrete arch culvert under Canadian Pacific railway, 350 feet south of Craighurst station and at mileage 73·8 from West Toronto

393 In south end of west face of square concrete culvert under Canadian Pacific railway, 1¼ miles north of Craighurst and at mileage 75·4 from West Toronto

394 In west end of south face of concrete retaining wall behind north abutment of small plate-girder bridge on Canadian Pacific railway, 1½ miles south of Carley and at mileage 77·2 from West Toronto.

395 In south end of west face of large concrete arch culvert under Canadian Pacific railway, 2½ miles south of Carley and at mileage 79·2 from West Toronto

396 In north face of northeast retaining wall of large concrete arch culvert under Canadian Pacific railway, 1¼ miles south of Carley and at mileage 80·4 from West Toronto; the bench-mark is 3 feet 6 inches east of east face of concrete coping on east end of culvert and 6 feet below top of coping

397 In east face of concrete arch culvert under Canadian Pacific railway, 1¼ miles north of Carley and at mileage 83·4 from West Toronto.

398 In north end of east face of square concrete culvert under Canadian Pacific railway, ½ mile south of Eady and at mileage 86·6 from West Toronto.

399 In north end of east face of concrete arch culvert under Canadian Pacific railway, 1½ miles south of Coldwater Junction and at mileage 88·9 from West Toronto.

399 A In southwest face of buttress at northwest corner of tower of Presbyterian church at Coldwater, 18 inches above sill of doorway leading to basement of church

400 In south end of east face of coping on east end of square concrete culvert under Canadian Pacific railway, 3 miles north of Coldwater Junction and at mileage 93·3 from West Toronto.

401 In east side of small rock-cut on Canadian Pacific railway, 130 feet north of farm crossing, 0·6 mile north of Lovering and 1,010 feet south of mile post 96 from West Toronto

402 In east face of concrete retaining wall behind south abutment of plate-girder bridge on Canadian Pacific railway, over Black river, ¾ mile north of Moredolphton flag station and at mileage 99·3 from West Toronto.

403 In east side of small rock-cut on Canadian Pacific railway, 725 feet south of order board at Buckskin station and about 430 feet north of pump house.

404 In east face of northeast concrete retaining wall—3 feet 9 inches above bridge-seat—of Canadian Pacific railway bridge over Severn river, 900 feet north of Severn Falls flag station.

405 In west side of rock-cut—27 feet west of Canadian Pacific railway track—180 feet north of a whistle post, 2¼ miles north of Severn Falls flag station and 288 feet north of mile post 106 from West Toronto.

406 In east side of rock-cut on Canadian Pacific railway, 580 feet south of south end of plate-girder bridge over High Falls creek, 1¼ miles south of Darling and 825 feet north of mile post 109 from West Toronto.

407 In north face of concrete coping on east end of large concrete arch culvert under Canadian Pacific railway at crossing of Ninemile lake), 1¼ miles north of Darling and at mileage 111·8 from West Toronto.

408 In east face of south concrete abutment 6 feet below bridge-seat of plate-girder bridge on Canadian Pacific railway, over Muskoka river, immediately south of Bala summer station and at mileage 114·7 from West Toronto.

BENCH-MARKS BETWEEN STEPHEN, MINNESOTA, AND MOOSEJAW AND REGINA, SASKATCHEWAN, VIA GREAT NORTHERN RAILWAY TO EMERSON, MANITOBA, WAGON ROAD ALONG INTERNATIONAL BOUNDARY TO GRETNA, GREAT NORTHERN RAILWAY TO PLUM COULEE, AND CANADIAN PACIFIC RAILWAY THROUGH NAPINKA, ESTEVAN AND PASQUA.

1 C In fourth course of stonework below bridge-seat, in face of northeast retaining wall of plate-girder bridge on Great Northern railway, about ¼ mile south of Stephen, Minnesota.

2 C In first course of stonework above bridge-seat, in east end of north face of retaining wall on top of south abutment of plate-girder bridge on Great Northern railway, 1¼ miles north of Hallock, Minnesota.

3 C In second course of stonework above ground, in east wall of Emerson post office, 3 feet from southeast corner of building.

4 C In concrete bench-mark pier, 5 feet east of west line of Great Northern railway right-of-way, and 5 feet south of north line of Government road allowance along international boundary between Manitoba and Minnesota, near Gretna, Manitoba.

5 C In concrete bench-mark pier, 5 feet east of west line of Great Northern railway right-of-way, 50 feet north of a timber culvert and 430 feet south of mile post 6 from international boundary—on line to Plum Coulée, Manitoba.

6 C In concrete bench-mark pier, 16 feet south of north line of Canadian Pacific railway right-of-way, ¼ mile east of road to Mennonite village, 2·6 miles east of Winkler, and 0·63 miles east of mile post 70 from Rugby Junction.

7 C In second course of stonework above ground, in west wall of Morden post office, 5 feet from northwest corner of building.

8 C In second course of stonework above ground, in west wall of Union Bank at Morden, 30 feet from southwest corner of building.

9 C In east end of north face of concrete arch culvert under Canadian Pacific railway, about ¾ mile east of Thornhill and at mileage 85·21 from Rugby Junction.

10 C In west end of north face of concrete arch culvert under Canadian Pacific railway, 3 miles west of Thornhill and at mileage 88·88 from Rugby Junction.

11 C In second course of stonework above ground, in west wall of Union Bank at Manitou, 1 foot from northwest corner of building.

12 C In second course of stonework above ground, in south wall of St. Andrew's Presbyterian church at Manitou, between second and third basement windows from southwest corner.

13 C In west end of north face of concrete culvert under Canadian Pacific railway, about 5 miles east of Lafleche.

14 C In north end of west face of concrete retaining wall behind east abutment of Canadian Pacific railway bridge over Pembina river, 1¼ miles west of LaRivière.

15 C In concrete bench-mark pier, 5 feet north of south line of Canadian Pacific railway right-of-way, 120 feet west of highway crossing just east of Pilot Mound station and opposite mile post 12 from LaRivière.

16 C In second course of stonework above ground, in north wall of public school at Crystal City, in fourth stone from northwest corner of building.

17 C In first course of stonework above ground, in east wall of St. Andrew's Presbyterian church at Mather, in tenth stone from southeast corner of building.

18 C In concrete bench-mark pier, 10 feet north of international boundary and on westerly line of road allowance running southerly from Mather.

19 C In north face—2 feet below top—of northeast retaining wall of Canadian Pacific railway bridge over Dead Kit creek, about 1 mile east of Cartwright station.

20 C In first course of stonework above ground, in east wall of public school at Cartwright, 15 feet from southeast corner of building.

21 C In concrete bench-mark pier, 17 feet north of south line of Canadian Pacific railway right-of-way, 750 feet west of a farm crossing, 935 feet west of mile post 39 from LaRivière and 3½ miles west of Cartwright.

22 C In first course of stonework above ground, in west wall of Holmfield public school, 4 feet north of main doorway.

23 C In concrete bench-mark pier, 16 feet south of north line of Canadian Pacific railway right-of-way, 105 feet west of west line of a highway crossing, 3 miles west of Holmfield and between fifth and sixth telegraph poles east of mile post 46 from LaRivière.

24 C In concrete bench-mark pier, 9 feet south of north line of Canadian Pacific railway right-of-way, ¼ mile east of a highway crossing, 2½ miles east of Killarney and between sixth and seventh telegraph poles east of mile post 49 from LaRivière.

25 C In first course of stonework below water-table course, in east end of north wall of Killarney town hall.

26 C In concrete bench-mark pier, 6 feet north of south line of Canadian Pacific railway right-of-way, 800 feet east of a farm crossing, 2¾ miles west of Killarney and between eighth and ninth telegraph poles west of mile post 54 from LaRivière.

27 C In southwest concrete pier under Canadian Pacific railway water tank, ¼ mile east of Rhodes station.

28 C In concrete bench-mark pier, 13 feet south of north line of Canadian Pacific railway right-of-way, 102 feet east of the whistle post east of a highway crossing and 1¾ miles east of Ninga.

29 C In third course of stonework below water-table course, in north end of east wall of Ninga high school.

30 C In north end of west face of east abutment of square concrete culvert under Canadian Pacific railway, 2½ miles east of Boissevain and at eleventh telegraph pole west of mile post 67 from LaRivière.

31 C In first course of stonework below water-table course, in north face of pilaster at northwest corner of Boissevain town hall.

32 C In third course of stonework below brickwork, in south end of west wall of Land Titles office at Boissevain.

33 C In south end of east face of southeast retaining wall of square concrete culvert under Canadian Pacific railway, 4 miles west of Boissevain and at eleventh telegraph pole east of mile post 74 from LaRivière.

34 C In south end of east face of southeast retaining wall of square concrete culvert under Canadian Pacific railway, ½ mile west of Cadzow siding and at twelfth telegraph pole east of mile post 76 from LaRivière.

RDI

35-C [illegible] church, between [illegible]

36-C In fourth [illegible] of Delorraine Methodist church, 10 feet from [illegible]

37-C In [illegible] Canadian Pacific railway right-of-way, 173 feet [illegible] Delorraine and between [illegible]

38-C In south [illegible] feet from southwest corner of [illegible]

39-C In north [illegible] 5000 feet west of line between sections 2 and 3, [illegible]

40-C In north [illegible] 2 inches below brickwork and 5 feet 2 inches from [illegible]

41-C In north [illegible] corner of Napinka public school.

42-C In north [illegible] Canadian Pacific railway bridge [illegible]

43-C In north [illegible] north wall of Northern Crown [illegible]

44-C [illegible] 2 feet 10 inches below brickwork [illegible]

45-C In [illegible] abutment of small plate-girder bridge on [illegible] telegraph pole east of [illegible]

46-C In [illegible] public school, 6 inches below woodwork and 2 feet east of main doorway.

47-C In west [illegible] thwest corner of Gainsborough public school.

48-C In [illegible] abutment of small plate-girder bridge on [illegible] between sixth and seventh telegraph poles [illegible]

49-C In [illegible] of Carievale public school, 15 feet from [illegible]

50-C In [illegible] of main or easterly section of Carnduff public [illegible]

51-C In [illegible] Canadian Pacific railway right-of-way, 128 feet [illegible] Carnduff and between fourteenth and fifteenth [illegible]

52-C In [illegible] south wall of Glen Ewen public school, 4 feet west of west [illegible]

53-C In north end of west face of [illegible] concrete culvert under Canadian Pacific railway, [illegible] west of Glen Ewen.

54-C In east face—10 inches from south end—of west abutment of square concrete culvert under Canadian Pacific railway, 2½ miles east of Oxbow and between sixth and seventh telegraph poles west of mile post 112 from Kemnay.

55-C In east wall of northerly section of Oxbow public school—9 inches above ground and 17 inches north of southeast corner of this section.

56-C In west face—8 inches below top—of north retaining wall of concrete culvert under Canadian Pacific railway, 2 miles west of Oxbow and between eighth and ninth telegraph poles east of mile post 117 from Kemnay.

57-C In fifth course of stonework below concrete water-table, in north end of west wall of Alameda public school.

58-C In concrete foundation of west wall of Frobisher Congregational church, 4 inches below woodwork and 20 feet 6 inches from southwest corner of building.

59-C In concrete bench-mark pier, 3 feet north of south line of Canadian Pacific railway right-of-way, 547 feet west of west line of a highway crossing, 3½ miles west of Frobisher and at the second telegraph pole east of mile post 133 from Kemnay.

60-C In concrete bench-mark pier, 2 feet north of south line of Canadian Pacific railway right-of-way, 3½ miles west of Hirsch and 260 feet east of mile post 141 from Kemnay.

61-C In fourth course of stonework below brickwork, in north wall—1 foot from northwest corner—of entrance porch of Bienfait public school.

62-C In first course of stonework below water-table course, in east end of north wall of Estevan post office.

63-C In east face of corner stone—immediately above water-table—at northeast corner of Estevan town hall.

64-C In southeast end of northeast face of large square concrete culvert under Canadian Pacific railway, 3½ miles southeast of Estevan and at mileage 141 from Pasqua.

65-C In northeast face—9 inches below top—of concrete retaining wall behind southeast abutment of plate-girder bridge on Canadian Pacific railway, immediately northwest of Roche Percée station.

66-C In southeast end of southwest face of concrete coping on southwest end of arch culvert under Canadian Pacific railway, 1½ miles southeast of Roche Percée and at fourth telegraph pole southeast of mile post 149 from Pasqua.

67-C In northwest end of northeast face of square concrete culvert under Canadian Pacific railway, ¾ mile southeast of Pinto and at mileage 153 from Pasqua.

68-C In concrete bench-mark pier, 3 feet northeast of southwest line of Canadian Pacific railway right-of-way, 290 feet southeast of east line of a highway crossing and 1¼ miles southeast of Hitchcock.

69-C In fourth course of stonework below brickwork, in south wall—2 feet from southeast corner—of Macoun public school.

70-C In concrete bench-mark pier, 4 feet northeast of southwest line of Canadian Pacific railway right-of-way at southeast end of a shallow cut, and at nineteenth telegraph pole southeast of diamond crossing of Canadian Northern railway, which is 3·3 miles southeast of Midale.

71-C In second course of stonework below brickwork, in south end of west wall of Midale public school.

72-C In northwest end of southwest face of large concrete culvert under Canadian Pacific railway, 3½ miles southeast of Halbrite and at mileage 106 from Pasqua.

73-C In northwest end of southwest face of concrete arch culvert under Canadian Pacific railway, ¾ mile northwest of Halbrite.

RDI

74-C In northwest end—10 [illegible] below top of [illegible] retaining wall behind southeast abutment of small plate-girder bridge on Canadian Pacific railway, 2 miles northwest of Ralph.

75-C In southwest face—3 feet 6 inches below bridge-seat and 10 inches from front—of southeast concrete abutment of small plate-girder bridge on Canadian Pacific railway, ½ mile southeast of Ralph.

76-C In southwest face—4 feet below bridge-seat and 10 inches from front—of southeast concrete abutment of small plate-girder bridge on Canadian Pacific railway, ¾ mile northwest of Ralph and at mileage 9[illegible] from Pasqua.

77-C In southwest face of concrete retaining wall behind southeast abutment—17 inches above seat of I-beams—of open culvert under Canadian Pacific railway, 2 miles northwest of Ralph and at mileage 92 from Pasqua.

78-C In southeast end of southwest face of concrete coping on southwest end of arch culvert under Canadian Pacific railway, 4¼ miles southeast of Weyburn and at mileage 89·4 from Pasqua.

79-C In southwest face—6 inches below top—of concrete retaining wall behind southeast abutment of plate-girder bridge on Canadian Pacific railway, 3¼ miles southeast of Weyburn and at mileage 87·6 from Pasqua.

80-C In south face of corner stone—fourth course below water-table course—at southwest corner of public school, on Second street, Weyburn.

81-C In southwest face—12 inches below top—of concrete retaining wall behind southeast abutment of open culvert under Canadian Pacific railway, ¾ mile northwest of Weyburn and at mileage 83·6 from Pasqua.

82-C In southeast end of southwest face of large square concrete culvert under Canadian Pacific railway, 2¼ miles northwest of McTaggart and at mileage 73·3 from Pasqua.

83-C In north wall of Yellow Grass public school, 14 feet from northeast corner and 4 feet below line of window sills.

84-C In concrete bench-mark pier, 4 feet southeast of southwest line of Canadian Pacific railway right-of-way, 238 feet southeast of east line of a highway crossing and 1½ miles southeast of Lang.

85-C In fourth course of stonework below brickwork, in south face of corner stone at southeast corner of public school, Wilcox.

86-C In southwest face of concrete foundation of pilaster—6 inches below woodwork—at west corner of Bank of Commerce building at Wilcox, immediately northeast of Canadian Pacific railway.

87-C In second course of stonework below woodwork, in northwest face of corner stone at west corner of tower of Wilcox Presbyterian church.

88-C In third course of stonework below concrete water-table, in southwest face of corner stone at west corner of Bank of Ottawa building at Rouleau.

89-C In second course of stonework below brick work, in southwest face of corner stone at south corner of Rouleau public school.

90-C In concrete bench-mark pier, 4 feet northeast of southwest line of Canadian Pacific railway right-of-way, 163 feet southeast of east line of a highway crossing, 2½ miles southeast of Pitman and about midway between mile posts 20 and 21 from Pasqua.

91-C In northwest end of southwest face of concrete coping on southwest end of arch culvert under Canadian Pacific railway, ¼ mile southeast of Drinkwater and at mileage 12·5 from Pasqua.

92-C In southeast end of southwest face of square concrete culvert under Canadian Pacific railway, 1·6 miles northwest of Drinkwater and at mileage 10·7 from Pasqua.

93-C In south face of east abutment of square concrete culvert under Canadian Pacific railway, 0·4 mile east of Pasqua and at mileage 127·2 from Broadview.

94-C In second course of stonework above concrete sidewalk, in east wall of Moosejaw post office, 3 feet 6 inches south of northerly entrance from Main street.

95-C In second course of stonework below water-table course, in south end of east " of Land Titles office at northeast corner of Ninth avenue and Fairford street west, Moosejaw.

96-C In fourth course of stonework below brickwork, in east face of corner stone at northeast corner of Moosejaw city hall—immediately opposite Land Titles office.

97-C In concrete bench-mark pier, 4 feet north of south line of Canadian Pacific railway right-of-way, at third telegraph pole west of a highway crossing, 2¾ miles west of Belle Plaine and at mile post 120 from Broadview.

98-C In concrete bench-mark pier, 4 feet north of south line of Canadian Pacific railway right-of-way, between seventh and eighth telegraph poles west of a highway crossing, 2·4 miles west of Pense and 190 feet east of mile post 112 from Broadview.

99-C In sixth course of concrete blocks below brickwork, in south end of west wall of public school at Pense.

100-C In south end of west face of concrete retaining wall behind east abutment—4 feet 6 inches above bridge-seat—of plate-girder bridge on Canadian Pacific railway, 2¼ miles west of Grand Coulée and at mileage 104·9 from Broadview.

101-C In sixth course of concrete blocks below brickwork, in south end of east wall of Grand Coulée Methodist church.

102-C In south end of west face of concrete retaining wall behind east abutment—14 inches above bridge-seat—of Canadian Pacific railway bridge over Waskana river, 2 miles west of Regina station.

BENCH-MARKS BETWEEN REGINA AND GIRVIN, SASKATCHEWAN, VIA CANADIAN NORTHERN RAILWAY.

1-D In first course of stonework below brickwork, in east wall of Regina post office, 31 feet south of northeast corner of building.

2-D In second course of stonework above concrete walk, in east end of south wall of Regina city hall.

3-D In stone water-table course, at west end of north wall of Canadian Pacific station-house at Regina.

4-D In concrete bench-mark pier, 5 feet southwest of northeast line of Canadian Northern railway right-of-way, about 300 feet southeast of a timber culvert and 410 feet northwest of mile post 7 from Regina.

5-D In southwest concrete foundation of Winnipeg Elevator Company's elevator number 26, opposite Condie station—5 inches below top of foundation and 5 feet 4 inches from south corner of elevator.

6-D In concrete bench-mark pier, 5 feet southwest of northeast line of Canadian Northern railway right-of-way, 4¾ miles southeast of Lumsden and 140 feet northwest of northwest end of bridge over creek at mile post 15 from Regina.

7-D In sixth course of stonework below brichwork, in east end of north wall of Lumsden Presbyterian church, immediately southwest of Canadian Northern station.

8-D In first course of stonework below concrete blocks, in north face of corner stone at northeast corner of Golden Lion hotel at Disley.

9-D In south concrete foundation—12 inches below top and 7 inches from southeast corner—of grain elevator on north side of Canadian Northern railway track, 450 feet east of Bethune station-house.

RDI

10 D In east end of south wall—28 inches below window sills of ground floor—of stone farm house owned by Duncan Campbell, 2¼ miles west of Bethune and 600 feet directly north of Canadian Northern railway track at mile post 39 from Regina.

11 D In first course of stonework below concrete wall, in south face of corner stone at southwest corner of concrete house owned by George Machen, 200 feet northeast of Findlater station-house.

12 D In third course of stonework above ground, in south face of corner stone at southeast corner of stone school house at Chamberlain.

13 D In east face of large boulder in field, 260 feet northeast of northeast line of Canadian Northern railway right-of-way, 4½ miles northwest of Chamberlain and between third and fourth telegraph poles northwest of mile post 60 from Regina.

14 D In first course of stonework above ground, in east face of corner stone at northeast corner of Aylesbury public school.

15 D In concrete bench-mark pier, 5 feet southwest of northeast line of Canadian Northern railway right-of-way, 5¼ miles southeast of Craik and 278 feet southeast of mile post 68 from Regina.

16 D In concrete foundation of north wall of Craik public school, 18 inches below brickwork and 12 inches from northeast corner of building.

17 D In stone foundation of west wall—5 inches below concrete blocks and 2 feet 6 inches from southwest corner of (concrete) farm house owned by Louis Scharf, ¼ mile north of Girvin station and 800 feet east of Canadian Northern railway track.

TABLE II.

RESULTS OF PRECISE LEVELLING.

ST. JOHN TO MONCTON, N.B

Bench-Mark. From	Bench-Mark. To	Distance between successive bench-marks.	Distance from bench-mark 97-B.	Discrepancy. Partial	Discrepancy. Total.	Elev. above mean sea level.	Bench-Mark.
No.	No.	Miles.	Miles.	Feet.	Feet.	Feet.	No.
	97-B					21·776	97-B
97-B	101-B	3·0	3·0	−·002	−·002	11·056	101-B
101-B	102-B	2·7	5·7	+·003	+·001	66·657	102-B
102-B	103-B	2·7	8·4	−·011	−·007	17·655	103-B
103-B	104-B	0·6	9·0	−·002	−·009	16·971	104-B
104-B	105-B	2·0	11·0	·009	−·018	102·161	105-B
105-B	106-B	2·8	13·8	·008	−·026	115·863	106-B
106-B	107-B	2·5	16·3	+·007	−·019	27·343	107-B
107-B	108-B	3·1	19·4	+·010	−·009	24·359	108-B
108-B	109-B	2·6	22·0	+·003	−·006	44·152	109-B
109-B	110-B	3·0	25·0	+·002	−·004	65·790	110-B
110-B	111-B	1·8	26·8	−·017	−·021	24·986	111-B
111-B	112-B	3·7	30·5	+·008	−·013	35·043	112-B
112-B	113-B	2·1	32·6	−·003	−·016	28·802	113-B
113-B	114-B	2·5	35·1	+·005	−·011	41·671	114-B
114-B	115-B	3·1	38·2	+·012	+·001	50·214	115-B
115-B	116-B	2·8	41·0	−·004	−·003	55·600	116-B
116-B	117-B	3·0	44·0	−·008	−·011	69·524	117-B
117-B	118-B	2·5	46·5	−·008	−·019	63·639	118-B
118-B	119-B	3·8	50·3	+·005	−·014	82·296	119-B
119-B	120-B	4·2	54·5	·001	−·015	140·193	120-B
120-B	121-B	3·7	58·2	−·009	−·024	128·737	121-B
121-B	122-B	4·6	62·8	−·036	−·060	134·634	122-B
122-B	123-B	3·2	66·0	+·006	−·054	97·302	123-B
123-B	124-B	2·0	68·0	−·008	−·062	99·681	124-B
124-B	125-B	2·5	70·5	·004	−·066	77·658	125-B
125-B	126-B	2·6	73·1	+·015	−·051	90·658	126-B
126-B	127-B	2·0	75·1	−·020	−·071	85·170	127-B
127-B	128-B	4·4	79·5	−·010	−·081	92·842	128-B
128-B	129-B	3·1	82·6	−·014	−·095	67·541	129-B
129-B	130-B	3·2	85·8	−·017	−·112	96·247	130-B
130-B	131-B	2·3	88·1	−·003	−·115	45·030	131-B
131-B	132-B	1·8	89·9	+·001	−·114	51·[illegible]	132-B
132-B	133-B	1·1	91·0	+·004	−·110	[illegible]	133-B
132-B	134-B	0·6	90·5	−·007	−·121	[illegible]	134-B

Connections with Public Works Dept's levels:—

B.M.—CCCXXXVI—I.R.C. station, Moncton, Elev. 51·38

B.M.—CCCXXXII—I.R.C. culvert near Moncton, Elev. 75·09

B.M.—MCLXIII—bridge at Rivière-du-Loup, Elev. 311·69

Connection with Tidal Survey bench-mark:—

B.M.—St. John Customs House, Elev. 41·93

RESULTS OF PRECISE LEVELLING

OXFORD JCT. TO MULGRAVE, N.S

Bench-Mark. From	Bench-Mark. To	Distance between bench-marks.	Distance from bench-mark 135 B.	Discrepancy. Partial.	Discrepancy. Total	Elev. above mean sea level	Bench-Mark.
No.	No.	Miles.	Miles.	Feet.	Feet.	Feet.	No.
	135 B					89·672	135–B
135 B	136 B	2·8	2·8	−·015	−·015	42·485	136–B
136 B	137–B	3·2	6·0	+·007	−·008	129·561	137–B
137 B	138 B	2·4	8·4	+·003	−·005	80·440	138–B
138 B	139 B	2·9	11·3	−·009	−·014	16·088	139–B
139 B	140 B	3·1	14·4	−·022	−·036	42·692	140–B
140–B	141 B	3·0	17·4	−·021	−·057	68·002	141–B
141–B	142–B	3·8	21·2	−·008	−·065	50·639	142–B
142–B	143–B	2·4	23·6	−·011	−·076	128·060	143–B
143 B	144–B	4·0	27·6	−·009	−·085	31·023	144–B
144 B	145 B	2·9	30·5	+·013	−·072	88·267	145–B
145 B	146 B	2·7	33·2	+·010	−·062	10·284	146–B
146 B	147 B	2·6	35·8	+·028	−·034	19·018	147–B
147–B	148 B	3·2	39·0	−·006	−·040	40·875	148–B
148 B	149–B	3·7	42·7	−·029	−·069	115·837	149–B
149–B	150–B	3·2	45·9	+·011	−·058	78·626	150–B
150–B	151–B	3·0	48·9	−·027	−·085	60·720	151–B
151–B	152–B	2·8	51·7	−·020	−·105	195·987	152–B
152–B	153–B	3·9	55·6	+·034	−·071	141·235	153–B
153–B	154–B	3·0	58·6	+·005	−·066	208·007	154–B
154–B	155–B	3·3	61·9	−·016	−·082	209·294	155–B
155 B	156 B	3·4	65·3	·000	−·082	48·578	156–B
156 B	157–B	4·4	69·7	−·020	−·102	17·736	157–B
157–B	158–B	2·6	72·3	+·005	−·097	8·745	158–B
158–B	159–B	3·0	75·3	−·016	−·113	132·093	159–B
159–B	160–B	6·6	81·9	−·007	−·120	32·651	160–B
160 B	161–B	2·9	84·8	+·013	−·107	205·208	161–B
161 B	162–B	2·9	87·7	+·020	−·087	144·286	162–B
162 B	163 B	3·3	91·0	−·009	−·096	11·429	163–B
163 B	164 B	4·3	95·3	−·006	−·102	12·643	164–B
164 B	165 B	4·1	99·4	+·035	−·067	196·674	165–B
165–B	166 B	2·6	102·0	+·017	−·050	250·977	166–B
166 B	167–B	3·0	105·0	+·019	−·031	150·752	167–B
167 B	168 B	5·6	110·6	+·002	−·029	451·306	168–B
168 B	169–B	3·1	113·7	+·015	−·014	249·319	169–B
169 B	170 B	3·2	116·9	+·034	+·020	202·826	170–B
170 B	171 B	3·4	120·3	+·032	+·052	103·882	171–B
171–B	172 B	3·1	123·4	+·001	+·053	16·305	172–B
172–B	173 B	0·6	124·0	+·008	+·061	26·040	173–B
172 B	174–B	3·6	127·0	−·001	+·052	5·680	174–B
174 B	175 B	4·0	131·0	−·010	+·042	75·074	175–B
175 B	176 B	3·4	134·4	−·015	+·027	10·123	176–B

RESULTS OF PRECISE LEVELLING

OXFORD JCT. TO MULGRAVE, N.S.—*Continued.*

Bench-Mark. From	Bench-Mark. To	Distance between successive bench-marks.	Distance from bench-mark 135 B	Discrepancy Partial.	Discrepancy Total	Elev. above mean sea level.	Bench-Mark.
No.	No.	Miles.	Miles.	Feet.	Feet.	Feet.	No.
176-B	177-B	4·1	138·5	+·004	+·031	99·563	177-B
177-B	178-B	3·0	141·5	−·008	+·023	89·936	178-B
178-B	179-B	3·2	144·7	+·015	+·038	4·688	179-B
179-B	180-B	2·4	147·1	−·002	+·036	80·220	180-B
180-B	181-B	3·3	150·4	−·012	+·024	192·824	181-B
181-B	182-B	3·1	153·5	+·009	+·033	321·943	182-B
182-B	183-B	3·6	157·1	+·026	+·059	322·537	183-B
183-B	184-B	2·8	159·9	−·007	+·052	126·452	184-B
184-B	185-B	1·7	161·6	·000	+·052	6·588	185-B

Connections with Public Works Dept's levels

B.M.—CML—I.R.C. bridge near Oxford Jct., Elev. 89·50 (this elevation is transferred from B.M. CCCXXXVI at Moncton).

B.M.—MCCXCI— between Pictou and Stellarton, Elev. 7·58
B.M.—MCCXCII— " " " " " 17·90
B.M.—MCCXCVI— " " " " " 132·33
B.M.—MCCXCVII— " " " " " 226·16
B.M.—MCCC—I.R.C. station, Stellarton, " 64·61

RESULTS OF PRECISE LEVELLING

LENNOXVILLE TO STANSTEAD, QUE.

Bench-Mark. From	Bench-Mark. To	Distance between successive bench-marks.	Distance from bench-mark 6.	Discrepancy. Partial.	Discrepancy. Total	Elev. above mean sea level.	Bench-Mark.
No.	No.	Miles.	Miles.	Feet.	Feet.	Feet	No.
	6					495·522	6
6	26	3·3	3·3	−·016	−·016	492·944	26
26	27	4·1	7·4	+·001	−·015	522·423	27
27	27-A	3·1	10·5	+·031	+·016	529·914	27-A
27-A	28	1·2	11·7	−·010	+·006	530·518	28
28	28-A	3·7	15·4	+·019	+·025	535·365	28-A
28-A	28-A-2	2·5	17·9	+·008	+·033	556·858	28-A-2
28-A-2	29	0·5	18·4	−·003	+·030	546·216	29
29	30	2·9	21·3	+·008	+·038	545·816	30
30	31	3·7	25·0	+·006	+·044	567·840	31
31	32-A	4·1	29·1	−·001	+·043	705·237	32-A
32-A	33-A	4·1	33·2	−·025	+·018	945·752	33-A
33-A	34	0·9	34·1	−·001	+·017	1,006·877	34

RESULTS OF PRECISE LEVELLING.

LENNOXVILLE, QUE., TO 15 MILES EAST OF MEGANTIC.

Bench-Mark. From	Bench-Mark. To	Distance between successive bench-marks.	Distance from bench-mark 6	Discrepancy. Partial.	Discrepancy. Total.	Elev. above mean sea level.	Bench-Mark.
No.	No.	Miles.	Miles.	Feet.	Feet.	Feet.	No.
	6					495·522	6
6	7–A	2·1	2·1	+·015	+·015	571·333	7–A
7–A	8–A	4·2	6·3	+·023	+·038	795·238	8–A
8–A	9–A	2·7	9·0	−·031	+·007	920·674	9–A
9–A	10–A	4·1	13·1	+·027	+·034	990·218	10–A
10–A	10–A–2	1·0	14·1	+·017	+·051	951·425	10–A–2
10–A–2	10–A–3	4·3	18·4	·000	+·051	770·911	10–A–3
10–A–3	11–A	0·6	19·0	+·018	+·069	674·947	11–A
11–A	12–A	2·9	21·9	+·023	+·092	811·617	12–A
12–A	13–A	3·8	25·7	−·023	+·069	1,031·182	13–A
13–A	13–A–2	2·8	28·5	+·022	+·091	1,083·975	13–A–2
13–A–2	14–A	2·3	30·8	·000	+·091	1,213·219	14–A
14–A	15–A–2	4·8	35·6	−·033	+·058	1,307·382	15–A–2
15–A–2	16–A	3·7	39·3	+·010	+·068	1,096·240	16–A
16–A	16–A–2	1·5	40·8	+·003	+·071	1,190·596	16–A–2
16–A–2	17–A	2·5	43·3	−·005	+·066	1,280·705	17–A
17–A	18–A	4·7	48·0	+·015	+·081	1,500·261	18–A
18–A	18–A–2	3·2	51·2	+·002	+·083	1,636·400	18–A–2
18–A–2	19–A	1·6	52·8	−·013	+·070	1,606·545	19–A
19–A	19–A–2	4·4	57·2	+·022	+·092	1,687·493	19–A–2
19–A–2	20–A	0·8	58·0	+·011	+·103	1,691·878	20–A
20–A	21–A	4·4	62·4	+·028	+·131	1,545·249	21–A
21–A	21–A–2	3·4	65·8	+·020	+·151	1,317·788	21–A–2
21–A–2	22–A	0·4	66·2	−·004	+·147	1,310·074	22–A
22–A	23–A	6·5	72·7	−·011	+·136	1,471·709	23–A
23–A	24–A	5·6	78·3	−·003	+·133	1,694·057	24–A
24–A	25–A	3·2	81·5	+·013	+·146	1,848·733	25–A
25–A	24–A–2	.....	81·5	−·001	+·145	1,849·475	24–A–2

RESULTS OF PRECISE LEVELLING.

MEGANTIC TO LEVIS, QUE.

Bench-Mark From	Bench-Mark To	Distance between successive bench-marks.	Distance from bench-mark 21-A-2.	Discrepancy. Partial.	Discrepancy. Total.	Elev. above mean sea level.	Bench-Mark.
No.	No.	Miles.	Miles.	Feet.	Feet.	Feet.	No.
	21-A-2					1,317·788	21-A-2
21-A-2	186-B	4·8	4·8	−·024	−·024	1,404·344	186-B
186-B	187-B	3·6	8·4	·000	−·024	1,607·798	187-B
187-B	188-B	4·0	12·4	+·004	−·020	1,626·666	188-B
188-B	189-B	3·8	16·2	−·007	−·027	1,563·410	189-B
189-B	190-B	3·8	20·0	−·004	−·031	1,416·894	190-B
190-B	191-B	2·9	22·9	−·010	−·041	1,268·208	191-B
191-B	192-B	2·9	25·8	+·011	−·030	1,106·374	192-B
192-B	193-B	1·1	26·9	+·002	−·028	1,051·662	193-B
193-B	194-B	4·3	31·2	+·016	−·012	1,080·528	194-B
194-B	195-B	3·4	34·6	−·011	−·023	996·111	195-B
195-B	196-B	0·8	35·4	−·002	−·025	991·579	196-B
196-B	197-B	3·6	39·0	−·015	−·040	844·976	197-B
197-B	198-B	4·4	43·4	+·022	−·018	719·798	198-B
198-B	199-B	3·6	47·0	−·002	−·020	719·185	199-B
199-B	200-B	2·5	49·5	+·027	+·007	715·935	200-B
200-B	201-B	1·7	51·2	+·017	+·024	799·505	201-B
201-B	202-B	3·4	54·6	+·019	+·043	980·642	202-B
202-B	203-B	2·9	57·5	+·014	+·057	1,061·305	203-B
203-B	204-B	1·9	59·4	−·010	+·047	1,071·472	204-B
204-B	205-B	3·6	63·0	+·008	+·055	847·630	205-B
205-B	206-B	3·6	66·6	+·006	+·061	655·565	206-B
206-B	207-B	2·5	69·1	−·014	+·047	490·233	207-B
207-B	208-B	4·0	73·1	·000	+·047	509·882	208-B
208-B	209-B	2·0	75·1	−·007	+·040	494·966	209-B
209-B	210-B	1·9	77·0	−·001	+·039	496·281	210-B
210-B	211-B	3·3	80·3	+·019	+·058	477·823	211-B
211-B	212-B	5·2	85·5	+·004	+·062	608·598	212-B
212-B	213-B	3·0	88·5	·000	+·062	624·003	213-B
213-B	214-B	2·7	91·2	+·021	+·083	553·825	214-B
214-B	215-B	4·4	95·6	−·001	+·082	431·170	215-B
215-B	216-B	3·7	99·3	−·013	+·069	291·291	216-B
216-B	217-B	3·3	102·6	+·003	+·072	300·608	217-B
217-B	218-B	3·9	106·5	+·032	+·104	231·924	218-B
218-B	219-B	3·0	109·5	+·023	+·127	177·096	219-B
219-B	220-B	1·8	111·3	−·020	+·107	66·837	220-B
220-B	221-B	1·9	113·2	+·006	+·113	19·338	221-B
221-B	222-B	0·4	113·6	·000	+·113	17·038	222-B

Connections with Public Works Dept's levels:—

B.M.—MCXXXV— between Harlaka Jct. and Levis, Elev. 239·62
B.M.—CLXVI— " " " " " " 167·69
B.M.—MCXXXVI— " " " " " " 72·83
B.M.—LXXIII— " " " " " " 58·15

RESULTS OF PRECISE LEVELLING.

KEMPTON TO OTTAWA, ONTARIO.

Bench-Mark.		Distance between successive bench-marks.	Distance from bench-mark 113.	Discrepancy.		Elev. above mean sea level.	Bench-Mark.
From	To			Partial.	Total.		
No.	No.	Miles.	Miles.	Feet.	Feet.	Feet.	No.
	113					337·269	113
113	113–A	2·2	2·2	+·017	+·017	317·135	113 A
113–A	114–A	2·7	4·9	+·012	+·029	286·782	114–A
114–A	115–A	2·6	7·5	+·004	+·033	284·392	115–A
115–A	116–A	1·1	8·6	−·005	+·028	289·464	116–A
116–A	117–A	2·8	11·4	+·014	+·042	308·360	117–A
117–A	118–A	0·2	11·6	·000	+·042	309·521	118–A
117–A	119–A	1·5	12·9	+·018	+·060	286·878	119–A
119–A	120–A	5·6	18·5	+·010	+·070	327·514	120–A
120–A	121–A	3·1	21·6	·000	+·070	339·502	121–A
121–A	122–A	3·7	25·3	+·005	+·075	326·019	122–A
122–A	123–A	1·0	26·3	+·010	+·085	294·245	123–A
123–A	124–A	2·9	29·2	+·005	+·090	241·505	124–A
124–A	125–A	1·7	30·9	+·004	+·094	277·639	125–A

Connection with Public Works Dept's. levels:—
B.M.—CCCCLXVI—C.P.R. Broad st. station, Ottawa, Elev. 184·06

RESULTS OF PRECISE LEVELLING.

COLBORNE TO TORONTO, ONTARIO.

Bench-Mark. From	Bench-Mark. To	Distance between successive bench-marks.	Distance from bench-mark ⊕	Discrepancy. Partial.	Discrepancy. Total	Elev. above mean sea level	Bench-Mark.
No.	No.	Miles.	Miles.	Feet.	Feet.	Feet.	No.
	166		283·8		−·344	298·946	166
166	167	3·7	287·5	+·024	−·320	281·047	167
167	168	4·0	291·5	+·020	−·300	273·854	168
168	169	5·3	296·8	+·011	−·289	292·385	169
169	171	2·6	299·4	+·004	−·285	263·262	171
171	170	3·5	302·9	+·008	−·277	250·474	170
170	173	3·9	306·8	+·025	−·252	287·835	173
173	172	0·5	307·3	−·004	−·256	257·027	172
172	172-A	0·1	307·4	+·004	−·252	267·835	172-A
173	174	4·3	311·1	+·021	−·231	366·276	174
174	175	3·6	314·7	+·026	−·205	390·828	175
175	175-A	5·1	319·8	+·003	−·202	368·002	175-A
175-A	176	2·4	322·2	+·016	−·186	302·474	176
176	176-A	3·5	325·7	+·013	−·173	278·665	176-A
176-A	177	1·2	326·9	·000	−·173	265·604	177
177	178	4·9	331·8	+·013	−·160	295·563	178
178	179	4·9	336·7	+·026	−·134	334·294	179
179	179-A	1·3	338·0	−·001	−·135	345·252	179-A
179-A	178-A	0·2	338·2	+·001	−·134	349·143	178-A
179	180-A	4·3	341·0	−·038	−·172	288·846	180-A
180-A	180	1·9	342·9	−·014	−·186	261·744	180
180	180-A-2	4·6	347·5	−·030	−·216	293·908	180-A-2
180-A-2	181	2·7	350·2	−·021	−·237	282·019	181
181	182	4·0	354·2	−·024	−·261	265·437	182
182	183	6·1	360·3	+·001	−·260	530·709	183
183	185	8·1	368·4	−·024	−·284	268·243	185
185	186	2·3	370·7	−·017	−·301	254·705	186
186	187	0·8	371·5	+·003	−·298	295·693	187
187	188-A	1·1	372·6	+·005	−·293	358·599	188-A
188-A	188	0·1	372·7	−·005	−·298	358·270	188
188-A	189	2·0	374·6	−·013	−·306	405·106	189

⊕ United States bench-mark on Chapman building, Rouse Point, N.Y.

Connections at Toronto with Public Works Dept's. levels:—
B.M.—DCXIV—Union station, Elev. 254·83
B.M.—DCXVII—Bathurst st. bridge, Elev. 270·70
B.M.—DCXIII—City Hall, Elev. 296·10
B.M.—DCXXIII—Parliament Bldg's, Elev. 358·81
B.M.—DCXXII—N. Toronto C.P.R. station, Elev. 406·40

Connection at Toronto with City Engineer's Dept's. levels:—
B.M. No. 12—Bathurst st. bridge, Elev. 274·17

RESULTS OF PRECISE LEVELLING

TORONTO TO WINDSOR, ONTARIO

Bench-Mark. From	Bench-Mark. To	Distance between successive bench-marks.	Distance from bench-mark 186.	Discrepancy Partial	Discrepancy Total.	Elev. above mean sea level	Bench-Mark.
No.	No.	Miles.	Miles	Feet	Feet	Feet	No.
	186					254·705	186
186	190	5·0	5·0	+ ·038	+ ·038	261·720	190
190	191	4·8	9·8	+ ·016	+ ·054	288·356	191
191	192	6·5	16·3	− ·043	+ ·011	323·958	192
192	193	5·5	21·8	− ·007	+ ·004	330·506	193
193	194	2·4	24·2	− ·022	− ·018	334·860	194
194	195	3·1	27·3	+ ·006	− ·012	344·024	195
195	196	5·0	32·3	− ·004	− ·016	322·450	196
196	197	4·7	37·0	− ·011	− ·027	302·748	197
197	215	3·7	40·7	+ ·035	+ ·008	472·288	215
215	216	2·9	43·6	+ ·019	+ ·027	609·596	216
216	216–A	3·2	46·8	·000	+ ·027	741·189	216–A
216–A	217	3·7	50·5	+ ·020	+ ·047	748·474	217
217	218	5·1	55·6	+ ·028	+ ·075	703·470	218
218	219	4·4	60·0	− ·033	+ ·042	707·845	219
219	220	0·6	60·6	+ ·014	+ ·056	694·831	220
219	220–A	3·0	63·0	− ·016	+ ·026	790·510	220–A
220–A	221	2·8	65·8	+ ·018	+ ·044	824·248	221
221	222	1·5	67·3	+ ·006	+ ·050	831·077	222
222	223	3·7	71·0	+ ·009	+ ·059	849·301	223
223	224	4·8	75·8	+ ·037	+ ·096	912·766	224
224	225	5·6	81·4	+ ·035	+ ·131	961·919	225
225	226	5·4	86·8	+ ·002	+ ·133	957·575	226
226	227	0·3	87·1	− ·002	+ ·131	9[illegible]	227
226	228	2·5	89·3	+ ·005	+ ·138	921·807	228
228	229	5·9	95·2	− ·028	+ ·110	880·292	229
229	230	1·1	96·3	− ·012	+ ·098	896·416	230
230	231	5·1	101·4	− ·017	+ ·081	881·417	231
231	232	2·3	103·7	− ·017	+ ·064	864·667	232
232	233	3·6	107·3	+ ·016	+ ·080	844·599	233
233	234	4·0	111·3	+ ·013	+ ·093	852·336	234
234	235	3·3	114·6	− ·033	+ ·060	827·896	235
235	236	2·0	116·6	− ·007	+ ·053	816·012	236
236	236–A*	3·0	119·6	− ·024	+ ·029	834·255	236–A*
236–A*	237	4·3	123·9	− ·015	+ ·014	860·020	237
237	237–A	2·0	125·9	− ·007	+ ·007	818·916	237–A
237–A	238	3·2	129·1	+ ·002	+ ·009	789·584	238
238	239	7·1	136·2	− ·008	+ ·001	755·968	239

* See also elevation of this B.M. on page 84.

RESULTS OF PRECISE LEVELLING.

TORONTO TO WINDSOR, ONTARIO—*Continued.*

Bench-Mark. From	Bench-Mark. To	Distance between successive bench-marks.	Distance from bench-mark 186	Discrepancy. Partial.	Discrepancy. Total.	Elev. above mean sea level.	Bench-Mark.
No	No	Miles	Miles	Feet.	Feet.	Feet.	No.
239	239–A	2·4	138·6	+·023	+·024	734·931	239–A
239–A	240	4·6	143·2	+·009	+·033	725·649	240
240	240–A	0·8	144·0	−·007	+·026	725·050	240–A
240–A	241	3·5	147·5	−·010	+·016	729·105	241
241	241–A	0·1	147·6	+·003	+·019	730·057	241–A
241	242	6·5	154·0	−·023	−·007	702·599	242
242	243	5·6	159·6	+·012	+·005	686·824	243
243	243–A	8·1	167·7	+·036	+·041	615·765	243–A
243–A	244	0·9	168·6	+·017	+·058	618·859	244
244	245	4·4	173·0	−·004	+·054	609·277	245
245	246	3·6	176·6	+·032	+·086	602·285	246
246	247	4·9	181·5	−·017	+·069	597·094	247
247	246–A	1·1	182·6	+·003	+·072	597·051	246–A
246–A	247–A	0·7	183·3	+·005	+·077	596·801	247–A
246–A	248	4·2	186·8	−·017	+·055	582·008	248
248	248–A	4·1	190·9	+·020	+·075	579·728	248–A
248–A	249	4·2	195·1	−·013	+·062	584·227	249
249	249–A	2·4	197·5	+·008	+·070	581·099	249–A
249–A	250	5·6	203·1	−·018	+·052	585·015	250
250	251	3·9	207·0	−·017	+·035	579·285	251
251	252	4·6	211·6	+·026	+·061	580·825	252
252	252–A	3·5	215·1	+·006	+·067	578·823	252–A
252–A	253	3·4	218·5	−·005	+·062	583·386	253
253	254	4·1	222·6	+·019	+·081	584·609	254
254	254–A	2·2	224·8	+·013	+·094	596·623	254–A
254–A	255	3·9	228·7	+·014	+·108	599·672	255

Connection at Windsor:—
B.M. No. 7 of Detroit River Tunnel Co., Elev. 596·69

RDI

RESULTS OF PRECISE LEVELLING

TORONTO TO OWEN SOUND, ONTARIO

Bench Marks		Distance between adjacent levels	Distance from Toronto	Differences		Elevations above sea level	Bench-Marks
From	To			Partial	Total		
No	No	Miles	Miles	Feet	Feet	Feet	No
	186					254·705	186
186	189	3·9	3·9	005	− 005	405·106	189
189	256	5·1	9·0	− 015	− 010	384·268	256
256	256 A	2·4	11·4	019	009	435·972	256 A
256 A	256 A 2	4·0	15·4	− 022	− 013	493·570	256 A 2
256 A 2	257	3·0	18·4	− 015	− 028	495·508	257
257	257 A	2·9	21·3	− 002	− 030	605·693	257 A
257 A	258	3·0	24·3	020	− 010	679·409	258
258	259	1·5	25·8	− 002	− 024	773·877	259
259	260	3·0	30·8	008	− 016	857·989	260
260	261	2·8	33·6	012	− 004	949·368	261
261	262	3·6	37·2	025	021	965·840	262
262	263	2·6	39·8	− 003	− 018	1,178·783	263
263	264	3·0	42·8	− 008	− 010	1,356·409	264
264	265	2·5	45·3	− 004	− 006	1,349·299	265
265	266	3·9	49·2	011	017	1,348·202	266
266	267	3·3	52·5	011	− 028	1,438·273	267
267	268	2·3	54·8	016	044	1,574·256	268
268	269	4·3	59·1	− 005	039	1,599·700	269
269	269 A	2·5	61·6	− 008	031	1,582·543	269 A
269 A	270 A	2·2	63·8	010	021	1,604·039	270 A
270 A	270	1·0	64·8	000	021	1,585·603	270
270	271	3·7	68·5	− 014	010	1,624·629	271
271	271 A	2·6	71·1	015	025	1,620·982	271 A
271 A	272	2·2	73·3	006	030	1,664·400	272
272	273	3·5	76·8	− 015	− 045	1,655·234	273
273	273 A	0·5	77·3	003	020	1,664·710	273 A
273 A	274	1·7	79·0	003	− 023	1,670·604	274
274	275	4·7	83·7	008	− 031	1,608·926	275
275	276	3·4	87·1	− 013	− 018	1,565·761	276
276	277	1·3	91·4	− 032	− 014	1,490·030	277
277	278	4·4	95·8	− 005	− 019	1,567·762	278
278	279	4·0	96·8	001	− 018	1,560·056	279
279	280	2·7	99·5	− 012	− 030	1,546·998	280
280	281	6·1	105·6	002	− 028	1,247·461	281
281	282	4·1	109·7	− 022	− 050	1,072·794	282
282	283	3·3	113·0	− 010	− 060	954·342	283
283	284	4·6	117·6	016	− 044	909·807	284
284	285	4·2	121·8	000	− 044	746·640	285
285	286	4·3	126·1	− 015	− 059	601·868	286
286	287	0·2	126·3	003	− 056	603·378	287
287	288		126·3	000	056	603·632	288

RESULTS OF PRECISE LEVELLING

OWEN SOUND TO HYDE PARK JCT., ONT.

Bench-Mark.		Distance between successive bench-marks.	Distance from bench-mark 286.	Discrepancy.		Elev. above mean level.	Bench-Mark.
From	To			Partial	Total		
No.	No.	Miles.	Miles.	Feet.	Feet.	Feet.	No.
	286					601·868	286
286	289	2·5	2·5	·019	−·019	628·831	289
289	289 A	3·3	5·8	·018	−·037	800·390	289 A
289 A	290	5·5	11·3	·015	−·052	731·126	290
290	291	3·8	15·1	+·006	−·046	724·693	291
291	292	4·4	19·5	·018	−·064	731·347	292
292	293	5·2	24·7	+·011	−·053	750·275	293
293	294	6·1	30·8	+·013	−·040	839·630	294
294	295	6·5	37·3	+·009	·031	915·100	295
295	296	0·4	37·7	+·001	−·030	923·659	296
296	297	5·2	42·9	·030	·060	972·186	297
297	298	5·5	48·4	+·006	·054	871·797	298
298	299	0·3	48·7	·004	·058	877·630	299
299	300	3·6	52·3	+·032	·026	870·044	300
300	301	4·5	56·8	·000	−·026	984·737	301
301	302	6·3	63·1	+·026	·000	1,215·086	302
302	303	5·7	68·8	+·019	+·019	1,244·709	303
303	304	0·1	68·9	+·003	+·022	1,255·202	304
304	305	5·7	74·6	+·012	+·034	1,317·286	305
305	306	2·7	77·3	+·021	+·055	1,277·393	306
306	307	6·4	83·7	−·014	+·041	1,258·995	307
307	308		83·7	−·004	+·037	1,254·112	308
307	309	6·0	89·7	+·031	+·072	1,201·951	309
309	310	3·8	93·5	+·014	+·086	1,159·246	310
310	311	3·7	97·2	+·006	+·092	1,160·435	311
311	312	5·6	102·8	−·040	+·052	1,115·452	312
312	313	7·6	110·4	+·034	+·086	1,064·929	313
313	314	4·1	114·5	+·001	+·087	1,038·271	314
314	315	4·3	118·8	+·004	+·091	1,042·977	315
315	316	3·5	122·3	−·028	+·063	1,091·391	316
316	317	6·5	128·8	−·001	+·062	1,075·582	317
317	318	4·9	133·7	·006	−·056	964·366	318
318	319	4·5	138·2	+·010	+·066	909·304	319
319	320	2·5	140·7	−·013	+·079	939·162	320
320	321	1·1	141·8	·006	+·073	905·459	321
321	322	3·5	145·3	+·003	+·076	879·858	322
322	323	2·9	148·2	+·006	+·082	875·664	323
323	324	3·7	151·9	−·023	+·059	759·920	324
324	325	2·1	154·0	+·024	+·083	734·382	325

RESULTS OF PRECISE LEVELLING.

OWEN SOUND TO HYDE PARK JCT., ONT.—*Continued.*

Bench-Mark. From	Bench-Mark. To	Distance between successive bench-marks.	Distance from bench-mark 286	Discrepancy. Partial.	Discrepancy. Total	Elev. above mean sea level	Bench-Mark
No.	No.	Miles.	Miles.	Feet.	Feet.	Feet.	No
325	326	0·5	154·5	+·005	+·088	720·223	326
326	327	0·2	154·7	−·004	+·084	712·496	327
327	328	2·8	144·6	+·013	+·086	886·312	328
328	329	2·5	147·1	−·015	+·071	874·420	329
329	330	4·7	151·8	+·006	+·077	881·290	330
330	331	4·1	155·9	−·015	+·062	897·621	331
331	332	3·8	159·7	+·026	+·088	862·142	332
332	333	1·2	160·9	−·020	+·068	884·031	333
333	334	3·1	164·0	+·012	+·080	856·088	334
334	335	3·9	167·9	+·031	+·111	863·038	335
335	336	1·8	169·7	+·011	+·122	859·763	336
336	337	4·1	173·8	−·002	+·120	864·945	337
337	338	3·6	177·4	−·020	+·091	912·024	338
338	339	4·1	181·5	+·015	+·106	938·765	339
339	340	2·5	184·0	+·005	+·111	886·336	340
340	341	4·0	188·0	·000	+·111	873·053	341
341	236–A *	1·9	189·9	−·020	+·091	834·406	236–A*

*See also elevation of this B.M. on page 80.

Connection at Goderich with Public Works Dept's water transfers:—
B.M. on chimney of Goderich water-works pump house, Elev. 587·68

RESULTS OF PRECISE LEVELLING.

HAMILTON TO BRIDGEBURG, ONTARIO

Bench-Mark. From	Bench-Mark. To	Distance between successive bench-marks.	Distance from bench-mark 197.	Discrepancy. Partial.	Discrepancy. Total.	Elev. above mean sea level.	Bench-Mark
No.	No.	Miles.	Miles.	Feet.	Feet.	Feet.	No.
	197					302·748	197
197	198	2·6	0·6	+ ·002	+ ·002	288·774	198
198	199	2·5	3·1	− ·010	− ·008	316·428	199
199	200	2·5	5·6	+ ·010	+ ·002	265·851	200
200	201	4·8	10·4	− ·031	− ·029	271·600	201
201	202	5·0	15·4	− ·006	− ·035	278·933	202
202	203	5·0	20·4	− ·026	− ·061	283·512	203
203	204	5·2	25·6	− ·016	− ·077	294·829	204
204	205	5·0	30·6	− ·015	− ·092	306·829	205
205	206	4·2	34·8	− ·002	− ·094	330·031	206
206	207	3·2	38·0	− ·006	− ·100	357·298	207
207	208	0·1	38·1	− ·001	− ·101	358·616	208
207	209	3·3	41·3	+ ·002	− ·098	384·458	209
209	210	2·5	43·8	+ ·008	− ·090	539·221	210
210	211	1·5	45·3	+ ·004	− ·086	572·065	211
211	212	5·3	50·6	− ·026	− ·112	586·097	212
212	213	4·0	54·6	− ·003	− ·115	590·547	213
213	214	3·6	58·2	− ·021	− ·136	580·353	214
214	213-A	5·9	64·1	− ·017	− ·153	593·351	213-A
213-A	214-A	8·0	72·1	+ ·047	− ·106	596·481	214-A
214-A	215-A	2·5	74·6	+ ·014	− ·092	577·696	215-A

Connections with bench-marks of U.S. Deep Waterways Commission at Fort Erie:—
B.M.—D.W. Fort Erie, Elev. 569·83
B.M.—D.W. Lake Erie, Elev. 581·45

RESULTS OF PRECISE LEVELLING.

BOLTON TO BALA, ONT.

Bench-Mark. From No.	Bench-Mark. To No.	Distance between successive bench marks. Miles.	Distance from bench-mark 260. Miles.	Discrepancy. Partial. Feet.	Discrepancy. Total Feet.	Elev. above mean sea level. Feet	Bench-Mark. No.
	260					857·989	260
260	374	1·3	4·3	−·027	−·027	870·712	374
374	375	2·4	6·7	+·021	−·006	914·052	375
375	376	3·0	9·7	+·009	+·003	915·056	376
376	377	1·1	10·8	−·001	+·002	889·759	377
377	377-A	3·0	13·8	+·015	+·017	844·933	377-A
377-A	378	1·2	15·0	−·007	+·010	773·148	378
378	379	1·8	16·8	+·013	+·023	768·787	379
379	380	2·2	19·0	+·002	+·025	726·274	380
380	381	2·8	21·8	−·005	+·020	722·854	381
381	382	2·4	24·2	−·002	+·018	722·740	382
382	383	0·4	24·6	−·004	+·014	728·236	383
382	384	3·2	27·4	+·012	+·030	724·995	384
384	385	4·2	31·6	+·005	+·035	692·277	385
385	386	4·3	35·9	−·014	+·021	689·320	386
386	387	2·9	38·8	−·003	+·018	720·237	387
387	388	3·8	42·6	−·011	+·007	751·204	388
388	389	2·2	44·8	+·004	+·011	740·798	389
389	390	2·3	47·1	−·006	+·005	771·176	390
390	391	2·5	49·6	+·024	+·029	787·092	391
391	392	3·2	52·8	+·019	+·048	828·221	392
392	393	1·6	54·4	−·010	+·038	819·522	393
393	394	1·8	56·2	−·006	+·032	806·653	394
394	395	1·9	58·1	+·007	+·039	752·767	395
395	396	1·4	59·5	+·011	+·050	744·714	396
396	397	3·0	62·5	+·020	+·070	723·671	397
397	398	3·1	65·6	+·015	+·085	685·581	398
398	399	2·3	67·9	+·001	+·086	644·447	399
399	399-A	4·6	72·5	+·014	+·100	599·946	399-A
399-A	400	3·9	76·4	−·011	+·089	596·603	400
400	401	2·7	79·1	+·011	+·100	596·944	401
401	402	3·3	82·4	−·004	+·096	628·549	402
402	403	3·7	86·1	+·018	+·114	678·283	403
403	404	1·1	87·2	−·004	+·110	684·448	404
404	405	2·1	89·3	−·006	+·104	702·271	405
405	406	3·1	92·4	+·003	+·107	733·323	406
406	407	2·6	95·0	+·001	+·108	748·501	407
407	408	3·0	98·0	+·008	+·116	742·706	408

Connections with Public Works Dept's levels:

B.M.—DCLVIII—near Utopia, Elev. 639·25
B.M.—DCLIX— " " Elev. 628·23
B.M.—DCXCIII— " Coldwater, Elev. 632·35
B.M.—DCXCII— " " Elev. 659·27

RESULTS OF PRECISE LEVELLING.

STEPHEN, MINN., TO REGINA, SASK.

Bench-Mark. From	Bench-Mark. To	Distance between successive bench-marks	Distance from bench-mark 1-C.	Discrepancy Partial.	Discrepancy Total	Elev. above mean sea level.	Bench-Mark.
No.	No.	Miles.	Miles.	Feet	Feet	Feet	No.
	Q-6*					830·928	Q-6*
Q-6*	1-C					825·558	1-C
1-C	2-C	24·2	24·2	−·009	−·009	812·201	2-C
2-C	3-C	20·4	44·6	−·096	−·105	787·361	3-C
3-C	4-C	21·5	66·1	−·059	−·164	829·645	4-C
4-C	5-C	6·0	72·1	−·010	−·174	814·281	5-C
5-C	6-C	15·7	87·8	−·013	−·187	868·805	6-C
6-C	8-C	9·8	97·6	+·032	−·155	991·282	8-C
C	7-C	0·1	97·7	+·001	−·154	993·949	7-C
8-C	9-C	6·2	103·8	−·019	−·174	1,270·843	9-C
9-C	10-C	4·0	107·8	+·017	−·157	1,407·792	10-C
10-C	11-C	11·0	118·8	−·007	−·164	1,607·060	11-C
11-C	12-C		118·8	−·001	−·165	1,614·884	12-C
11-C	13-C	5·9	124·7	−·015	−·179	1,502·628	13-C
13-C	14-C	6·6	131·3	−·025	−·204	1,303·500	14-C
14-C	15-C	10·5	141·8	+·007	−·197	1,540·585	15-C
15-C	16-C	5·4	147·2	+·021	−·176	1,507·706	16-C
16-C	17-C	11·9	159·1	−·048	−·224	1,529·917	17-C
17-C	18-C	6·8	165·9	+·061	−·163	1,549·434	18-C
17-C	19-C	6·1	165·2	−·001	−·225	1,509·659	19-C
19-C	20-C	1·3	166·5	+·001	−·224	1,533·007	20-C
20-C	21-C	4·0	170·5	+·005	−·219	1,538·947	21-C
21-C	22-C	3·8	174·3	−·008	−·227	1,553·913	22-C
22-C	23-C	3·4	177·7	−·008	−·235	1,571·441	23-C
23-C	24-C	3·1	180·8	+·006	−·229	1,597·552	24-C
24-C	25-C	2·8	183·6	−·005	−·234	1,626·484	25-C
25-C	26-C	3·1	186·7	+·028	−·206	1,622·627	26-C
26-C	27-C	3·4	190·1	−·019	−·225	1,642·399	27-C
27-C	28-C	2·9	193·0	·007	−·232	1,649·673	28-C
28-C	29-C	2·1	195·1	+·002	−·230	1,643·949	29-C
29-C	30-C	5·4	200·5	·027	·257	1,658·873	30-C
30-C	31-C	2·6	203·1	−·005	−·262	1,694·276	31-C
31-C	32-C	0·2	203·3	+·005	−·257	1,678·875	32-C
32-C	33-C	4·0	207·3	−·036	−·293	1,639·577	33-C

*U. S. bench-mark.

RESULTS OF PRECISE LEVELLING

STEPHEN, MINN., TO REGINA, SASK.—*Continued*

Bench-Mark. From	Bench-Mark. To	Distance between successive bench-marks.	Distance from bench-mark 1-C.	Discrepancy. Partial.	Discrepancy. Total.	Elev. above mean sea level	Bench-Mark.
No.	No.	Miles.	Miles.	Feet.	Feet.	Feet	No
33-C	34-C	2·0	209·3	−·008	−·301	1,646·534	34-C
34-C	35-C	5·0	214·3	−·007	−·308	1·672·469	35-C
35-C	36-C	10·0	224·3	−·012	−·320	1,644·705	36-C
36-C	38-C	8·3	232·6	−·027	−·347	1,650·511	38-C
38-C	39-C	6·8	239·4	+·032	−·315	1,730·665	39-C
36-C	37-C	3·6	227·9	+·029	−·291	1,604·787	37-C
37-C	40-C	6·8	234·7	−·019	−·310	1,505·649	40-C
40-C	41-C	8·7	243·4	−·051	−·361	1,467·817	41-C
41-C	42-C	7·7	251·1	−·036	−·397	1,415·191	42-C
42-C	43-C	0·8	251·9	+·014	−·383	1,426·692	43-C
43-C	44-C	7·3	259·2	−·042	−·425	1,502·354	44-C
44-C	45-C	2·4	261·6	+·017	−·408	1,520·775	45-C
45-C	46-C	4·9	266·5	−·011	−·419	1,536·787	46-C
46-C	47-C	9·0	275·5	−·039	−·458	1,609·309	47-C
47-C	48-C	6·8	282·3	+·024	−·434	1,668·116	48-C
48-C	49-C	1·5	283·8	−·012	−·446	1,679·923	49-C
49-C	50-C	7·8	291·6	+·006	−·440	1,733·072	50-C
50-C	51-C	4·3	295·9	·000	−·440	1,768·804	51-C
51-C	52-C	5·9	301·8	−·015	−·455	1,829·233	52-C
52-C	53-C	1·4	303·2	+·011	−·444	1·831·639	53-C
53-C	54-C	3·7	306·9	+·021	−·423	1,858·905	54-C
54-C	55-C	2·8	309·7	+·003	−·420	1,914·433	55-C
55-C	56-C	2·3	312·0	·000	−·420	1,828·386	56-C
56-C	57-C	5·2	317·2	+·012	−·408	1,903·633	57-C
57-C	58-C	7·6	324·8	+·040	−·368	1,893·818	58-C
58-C	59-C	3·5	328·3	+·004	−·364	1,880·207	59-C
59-C	60-C	8·0	336·3	+·016	−·348	1,893·358	60-C
60-C	61-C	6·6	342·9	+·008	−·340	1,904·060	61-C
61-C	62-C	9·0	351·9	−·018	−·358	1,867·873	62-C
62-C	63-C	0·2	352·1	−·001	−·359	1,868·047	63-C
62-C	64-C	3·9	355·8	·000	−·358	1,848·582	64-C
64-C	65-C	6·3	362·1	−·028	−·386	1,748·151	65-C
65-C	66-C	2·0	364·1	−·024	−·410	1,739·733	66-C
66-C	67-C	3·5	367·6	+·007	−·403	1,875·070	67-C
67-C	*	7·7	375·3	−·022	−·425	1,954·043	*
62-C	68-C	7·1	359·0	−·029	−·387	1,908·422	68-C

* Metal elevation plate on base of International Boundary Monument, 230 ft. west of C.P.R. track at North Portal station.

RESULTS OF PRECISE LEVELLING.

STEPHEN, MINN., TO REGINA, SASK.—*Concluded.*

Bench-Mark.		Distance between successive bench-marks.	Distance from bench-mark 1-C.	Discrepancy		Elev. above mean sea level.	Bench-Mark.
From	To			Partial.	Total.		
No	No	Miles.	Miles.	Feet	Feet	Feet.	No.
68-C	69-C	10·1	369·1	+·056	−·331	1,910·990	69-C
69-C	70-C	5·0	374·1	+·025	−·306	1,893·114	70-C
70-C	71-C	4·1	378·2	+·014	−·292	1,914·879	71-C
71-C	72-C	5·7	383·9	−·006	−·298	1,912·367	72-C
72-C	73-C	4·3	388·2	+·018	−·280	1,901·536	73-C
73-C	74-C	1·3	389·5	+·008	−·272	1,903·839	74-C
74-C	75-C	6·0	395·5	+·024	−·248	1,895·134	75-C
75-C	76-C	1·1	396·6	+·019	−·229	1,893·110	76-C
76-C	77-C	1·3	397·9	−·013	−·242	1,877·507	77-C
77-C	78-C	2·8	400·7	+·011	−·231	1,865·856	78-C
78-C	79-C	1·5	402·2	+·012	−·219	1,864·706	79-C
79-C	80-C	3·5	405·7	+·021	−·198	1,869·259	80-C
80-C	81-C	1·1	406·8	−·005	−·203	1,860·021	81-C
81-C	82-C	10·3	417·1	−·017	−·220	1,894·617	82-C
82-C	83-C	6·1	423·2	+·021	−·199	1,902·236	83-C
83-C	84-C	11·2	434·4	+·014	−·185	1,907·874	84-C
84-C	85-C	9·3	443·7	−·015	−·200	1,912·671	85-C
85-C	86-C	12·0	455·7	−·004	−·204	1,896·445	86-C
86-C	87-C		455·7	+·003	−·201	1,897·754	87-C
86-C	88-C	10·3	466·0	·000	−·204	1,888·693	88-C
88-C	89-C		466·0	+·001	−·203	1,895·368	89-C
88-C	90-C	4·0	470·0	−·011	−·215	1,886·958	90-C
90-C	91-C	8·4	478·4	−·006	−·221	1,863·558	91-C
91-C	92-C	2·0	480·4	+·016	−·205	1,872·076	92-C
92-C	93-C	10·1	490·5	+·066	+·139	1,867·639	93-C
93-C	94-C	7·9	498·4	−·008	−·147	1,786·091	94-C
94-C	95-C		498·4	+·004	−·151	1,785·483	95-C
95-C	96-C		498·4	·000	−·151	1,785·182	96-C
96-C	97-C	7·4	497·9	−·012	·151	1,905·860	97-C
97-C	98-C	8·1	506·0	+·016	−·135	1,903·014	98-C
98-C	99-C	2·6	508·6	+·002	−·133	1,892·362	99-C
99-C	100-C	5·7	514·3	+·017	−·116	1,854·713	100-C
100-C	101-C	2·9	517·2	−·001	−·117	1,867·486	101-C
101-C	102-C	7·4	524·6	+·010	·107	1,871·037	102-C
102-C	1-D	1·9	526·5	+·021	−·086	1,896·121	1-D

RESULTS OF PRECISE LEVELLING.

REGINA TO GIRVIN, SASK.

Bench-Mark. From	Bench-Mark. To	Distance between successive bench-marks.	Distance from bench-mark 1-D	Discrepancy. Partial	Discrepancy. Total	Elev. above mean sea level.	Bench-Mark.
No.	No.	Miles.	Miles.	Feet.	Feet.	Feet.	No.
	1-D					1,896·121	1-D
1-D	2-D			·000	·000	1,897·686	2-D
2-D	3-D	0·3	0·3	+ ·007	+ ·007	1,897·191	3-D
3-D	4-D	7·1	7·4	+ ·005	+ ·012	1,920·475	4-D
4-D	5-D	2·3	9·7	− ·027	− ·015	1,875·534	5-D
5-D	6-D	6·4	16·1	− ·004	− ·019	1,743·281	6-D
6-D	7-D	4·9	21·0	+ ·028	+ ·009	1,634·626	7-D
7-D	8-D	8·8	29·8	− ·035	− ·026	1,829·576	8-D
8-D	9-D	7·9	37·7	+ ·001	− ·025	1,829·904	9-D
9-D	10-D	2·6	40·3	+ ·028	+ ·003	1,823·772	10-D
10-D	11-D	8·2	48·5	+ ·016	+ ·019	1,816·206	11-D
11-D	12-D	8·4	56·9	+ ·034	+ ·053	1,874·981	12-D
12-D	13-D	4·7	61·6	+ ·020	+ ·073	1,877·208	13-D
13-D	14-D	4·0	65·6	− ·004	+ ·069	1,906·935	14-D
14-D	15-D	4·0	69·6	+ ·025	+ ·094	1,902·527	15-D
15-D	16-D	5·5	75·1	− ·025	+ ·069	1,924·616	16-D
16-D	17-D	9·3	84·4	+ ·047	+ ·116	1,973·169	17-D

TABLE III.

RAIL ELEVATIONS AT STATIONS, ST. JOHN TO MONCTON, N.B.

(Elevations taken in 1910.)

		FEET
Intercolonial Railway—	St. John	20·6
"	Island Yard	14·3
"	Brookville	29·5
"	Torryburn	69·2
"	Renforth	40·5
"	Riverside	20·3
"	Fairvale	53·5
"	Quispamsis	154·7
"	Model Farm	130·2
"	Jubilee	34·4
"	Nauwigewauk	23·4
"	Lakeside	29·4
"	Hampton	27·0
"	Passekeag	35·6
"	Bloomfield	35·5
"	Norton	51·6
"	Apohaqui	73·7
"	Sussex	69·6
"	Plumweseep	66·7
"	Penobsquis	92·2
"	Dunsinane	155·8
"	Anagance	160·6
"	Petitcodiac	96·6
"	River Glade	82·3
"	Salisbury	102·8
"	Jones	105·4
"	Moncton	50·1

RAIL ELEVATIONS AT STATIONS, OXFORD JUNCTION TO MULGRAVE, N.S.

(Elevations taken in 1910.)

		FEET
Intercolonial Railway—	Oxford Junction	93·5
"	Oxford	42·3
"	Conn Mills	25·1
"	Pugwash Junction	40·1
"	Wallace Bridge	42·4
"	Wallace	132·1
"	Malagash	42·7
"	McCallum	88·0
"	Tatamagouche	16·0
"	Denmark	142·5
"	Wilson	135·9
"	River John	68·5
"	Meadowville	145·9
"	Scotsburn	252·6
"	Lyon Brook	59·8
"	Loch Broom	11·9
"	Sylvester	12·5
"	Alma	86·9
"	Westville	224·1
"	Stellarton	62·3

RAIL ELEVATIONS AT STATIONS, OXFORD JUNCTION TO MULGRAVE, N.S.—*Continued.*

(Elevations taken in 1910.)

		FEET.
Intercolonial Railway—	New Glasgow	31·4
"	Woodburn	143·1
"	West Merigomish	69·0
"	Merigomish	19·6
"	Piedmont	262·5
"	Avondale	154·4
"	Dewars Mills	153·9
"	Barney River	204·6
"	Marshy Hope	417·6
"	James River	252·3
"	South River	22·1
"	Taylor Road	122·4
"	Pomquet	27·2
"	Heatherton	75·8
"	Bayfield	132·2
"	Afton	130·8
"	Tracadie	40·8
"	Monastery	13·0
"	Linwood	132·4
"	Harbour au Bouche	301·3

RAIL ELEVATIONS AT STATIONS, LENNOXVILLE TO STANSTEAD, QUEBEC.

Elevations taken in 1911

		FEET
Boston and Maine Railroad—	Capelton	494·3
"	North Hatley	537·2
"	Massawippi	537·6
"	Ayers Cliff	558·5
"	Boynton	561·9
"	Smiths Mills	622·2
"	Beebe Junction	751·3
"	Beebe	769·9
"	Rock Island and Derby Line	942·0

RAIL ELEVATIONS AT STATIONS, LENNOXVILLE, QUEBEC, TO INTERNATIONAL BOUNDARY, 15 MILES EAST OF MEGANTIC

Elevations taken in 1911

		FEET
Canadian Pacific Railway—	Johnville	854·6
"	Bulwer	939·6
"	Birchton	973·9
"	Cookshire	685·0
"	Maine Central R. R. (diamond crossing)	683·1
"	Bury	1,063·3
"	Gould	1,302·2
"	Scotstown	1,194·9
"	McLeod	1,474·5
"	Milan	1,645·8
"	Springhill	1,691·1
"	Megantic	1,310·3
"	Ditchfield	1,472·4
"	Boundary (station)	1,850·1

RAIL ELEVATIONS AT STATIONS, MEGANTIC TO LEVIS, QUEBEC.

(Elevations taken in 1911.)

		FEET
Quebec Central Railway—	Megantic	1,319·2
"	Ste. Cécile	1,670·9
"	St. Samuel	1,677·6
"	St. Sebastian	1,515·5
"	Courcelles	1,052·5
"	St. Evariste	991·8
"	St. Ephrem	737·4
"	St. Victor	721·4
"	Tring Junction	1,068·2
"	Valley Junction	491·4
"	St. Mary	480·5
"	Scott	476·2
"	Ste. Henedine	645·8
"	St. Anselme	503·3
"	St. Henri	292·5
"	Intercolonial Railway (diamond crossing)	300·6
"	Carrier Junction	300·3
"	Harlaka Junction	240·8
Intercolonial Railway—	St. Joseph-de-Levis	88·8
"	Levis	16·6

RAIL ELEVATIONS AT STATIONS, KEMPTON TO OTTAWA, ONT.

(Elevations taken in 1912.)

		FEET
Canadian Pacific Railway—	Kempton	332·8
"	Kemptville	300·0
"	Sabourin	286·8
"	Osgoode	304·0
"	Brays	297·6
"	Manotick	328·3
"	Gloucester	355·5
"	Chaudière Junction	272·2
"	Ottawa (Broad street station)	181·0

RAIL ELEVATIONS AT STATIONS, COLBORNE TO WINDSOR, ONT.

(Elevations taken in 1910.)

		FEET
Grand Trunk Railway—	Colborne	321·8
"	Grafton	283·8
"	Cobourg	295·4
"	Port Hope	286·5
"	Newtonville	396·0
"	Newcastle	299·3
"	Bowmanville	262·6
"	Darlington	323·7
"	Oshawa Junction	331·7
"	Whitby Junction	276·3
"	Pickering	290·4
"	Dunbarton	288·7
"	Rosebank	290·4
"	Port Union	266·5
"	Scarboro Junction	546·5
"	York	425·9

RAIL ELEVATIONS AT STATIONS, COLBORNE TO WINDSOR, ONT.—*Continued.*

(Elevations taken in 1910.)

		FEET
Grand Trunk Railway	Riverdale	266·5
"	Canadian Pacific Railway (diamond crossing	251·7
"	Toronto (Union station	252·9
"	Mimico	302·1
"	Long Branch	311·7
"	Rifle Ranges	291·8
"	Port Credit	278·8
"	Lorne Park	308·4
"	Clarkson	323·4
"	Oakville	328·3
"	Bronte	344·6
"	Burlington Junction	327·0
"	Waterdown	341·2
"	Hamilton (Stuart St. station	254·1
"	Dundas	513·0
"	Copetown	747·5
"	Lynden	751·5
"	Alford	711·0
"	Brantford	705·9
"	Paris	828·9
"	Paris Junction	844·3
"	Princeton	934·6
"	Goble	936·0
"	Eastwood	973·6
"	Woodstock	958·8
"	Canadian Pacific Railway (diamond crossing	929·4
"	Beachville	906·1
"	Ingersoll	878·2
"	Dorchester	851·6
"	London East	828·4
"	London	805·7
"	Hyde Park Junction	873·6
"	Komoka	809·4
"	Mount Brydges	819·7
"	Longwood	750·8
"	Michigan Central Railway (diamond crossing	742·8
"	Appin	741·9
"	Glencoe	729·6
"	Newbury	701·7
"	Bothwell	687·5
"	Thamesville	620·6
"	Northwood	611·9
"	Vosburg	605·4
"	Chatham Junction	598·1
"	Chatham	595·9
"	Canadian Pacific Railway (diamond crossing	589·3
"	Prairie Siding	581·9
"	Jeannette	580·3
"	Stoney Point	584·7
"	St. Clair	583·5
"	Belle River	582·8
"	Puce	582·8
"	Pike Creek	588·9
"	Tecumseh	587·0
"	Walkerville	586·5
"	Windsor	579·1

RAIL ELEVATIONS AT STATIONS, TORONTO TO OWEN SOUND, ONTARIO

(Elevations taken in 1910)

		FEET
Canadian Pacific Railway—Toronto (Union station)		252·9
"	Grand Trunk Railway (North Bay division, diamond crossing with North Toronto subdivision of Canadian Pacific Railway)	397·7
"	Weston	428·8
"	Emery	510·3
"	Woodbridge	554·0
"	Elder	630·3
"	Kleinburg	712·6
"	Bolton	847·7
"	Mono Road	976·2
"	Caledon	1,359·0
"	Melville Junction	1,328·4
"	Orangeville	1,397·5
"	Fraxa Junction	1,617·7
"	Laurel	1,611·3

(Elevations taken in 1911)

"	Crombies	1,604·7
"	Shelburne	1,629·0
"	Melancthon	1,665·3
"	Corbetton	1,665·3
"	Dundalk	1,704·9
"	Proton	1,586·2
"	Saugeen Junction	1,569·0
"	Flesherton	1,559·2
"	Markdale	1,361·0
"	Berkeley	1,332·2
"	Holland Centre	1,215·2
"	Chatsworth	947·4
"	Rockford	917·1

RAIL ELEVATIONS AT STATIONS, OWEN SOUND TO HYDE PARK JUNCTION, ONTARIO.

(Elevations taken in 1911)

		FEET
Grand Trunk Railway—Brookholm		597·0
"	Ben Allen	796·8
"	Shallow Lake	738·1
"	Park Head Junction	721·8
"	Allenford	749·5
"	Tara	756·0
"	Dobbinton	818·8
"	Chesley	920·5
"	Elmwood	936·6
"	Hanover	876·3
"	Neustadt	972·1
"	Ayton	1,081·6
"	Alsfeldt	1,168·0
"	Drew	1,230·4
"	Canadian Pacific Railway (diamond crossing	1,247·6
"	Harriston	1,253·7
"	Gowanstown	1,278·8

RAIL ELEVATIONS AT STATIONS, OWEN SOUND TO HYDE PARK JUNCTION, ONTARIO—*Continued.*

(Elevations taken in 191[illegible])

		FEET
Grand Trunk Railway	Listowel	1,264·7
"	Atwood	1,201·6
"	Henfryn	1,164·7
"	Ethel	1,173·9
"	Brussels	1,121·3
"	Bluevale	1,074·7
"	Belgrave	1,057·4
"	Blyth	1,078·9
"	Londesborough	971·4
"	Clinton Junction	907·6
"	Holmesville (Goderich branch	874·0
"	Brucefield	886·3
"	Kippen	884·5
"	Hensall	895·2
"	Exeter	871·8
"	Centralia	867·1
"	Clandeboye	882·6
"	Denfield	896·7
"	Ilderton	933·4
"	Ettrick	902·2
"	Hyde Park Crossing	884·7
"	Hyde Park Junction	873·7

RAIL ELEVATIONS AT STATIONS, HAMILTON TO BRIDGEBURG, ONT.

Elevations taken in 1908

		FEET
Grand Trunk Railway	Hamilton Stuart street station	254·1
"	Stoney Creek	273·3
"	Winona	285·6
"	Grimsby	287·6
"	Grimsby Beach	303·0
"	Beamsville	296·2
"	Jordan	308·4
"	St. Catharines	347·5
"	Merritton	397·4
"	Thorold	527·3
"	Port Robinson	588·0
"	Welland	599·4
"	Welland Junction	579·5
"	Stevensville	590·0
"	Bridgeburg	591·7

RAIL ELEVATIONS AT STATIONS, BOLTON TO BALA, ONTARIO

Elevations taken in 1912

		FEET
Canadian Pacific Railway	Bolton	847·7
"	Cedar Mills	915·9
"	Palgrave	938·3
"	Tottenham	836·9
"	Beeton	763·8
"	Grand Trunk Railway, Beeton—Collingwood line (diamond crossing	725·5

RAIL ELEVATIONS AT STATIONS, BOLTON TO BALA, ONTARIO—*Continued*

(Elevations taken in 1912.)

		FEET.
Canadian Pacific Railway	Alliston	727·4
"	Baxter	725·2
"	Grand Trunk Railway, Barrie—Meaford line (diamond crossing)	703·3
"	Utopia	716·8
"	Grand Trunk Railway, Barrie—Penetang line (diamond crossing)	735·0
"	Mac	752·1
"	Midhurst	764·5
"	Craighurst	836·0
"	Carley	753·1
"	Eady	680·6
"	Coldwater Junction	632·7
"	Coldwater (branch)	594·9
"	Grand Trunk Railway, Orillia—Midland line (diamond crossing)	619·1
"	Lovering	591·6
"	Buckskin	678·3
"	Severn Falls	687·1
"	Darling	746·5
"	Bala (summer station)	754·1
"	Bala (winter station)	755·4

RAIL ELEVATIONS AT STATIONS, STEPHEN, MINNESOTA, TO ESTEVAN, SASKATCHEWAN.

(Elevations taken in 1910.)

		FEET
Great Northern Railway	Stephen, Minnesota	830·5
"	Donaldson	829·7
"	Kennedy	829·1
"	Hallock	818·3
"	Northcote	804·8
"	Humboldt	796·6
"	St. Vincent	790·3
Northern Pacific Railway	Pembina, North Dakota	792·7
Great Northern Railway	West Gretna, Man	830·7
"	Bergman	820·1
"	Canadian Pacific Railway (diamond crossing)	834·9
"	Plum Coulée	834·8
Canadian Pacific Railway	Plum Coulée	835·8
"	Winkler	891·2
"	Great Northern Railway (diamond crossing)	980·2
"	Morden	991·5
"	Thornhill	1,314·7
"	Darlingford	1,587·6
"	Manitou	1,589·7
"	Lakiviére	1,323·9
"	Wood Bay	1,547·3
"	Pilot Mound	1,550·6
"	Crystal City	1,514·0
"	Clearwater	1,496·1
"	Mather	1,524·5
"	Cartwright	1,529·0

RAIL ELEVATIONS AT STATIONS, STEPHEN, MINNESOTA, TO ESTEVAN, SASKATCHEWAN—*Continued*

Elevations taken in 1911

		FEET
Canadian Pacific Railway	Canadian Northern Railway (diamond crossing)	1,543
"	Holmfield	1,549·4
"	Killarney	1,624·
"	Ninga	1,652
"	Bossevain	1,684·2
"	Great Northern Railway (diamond crossing)	1,676·6
"	Whitewater	1,656·5
"	Naples	1,658·6
"	Deloraine	1,642·4
"	Goodlands (branch)	1,651·5
"	Medora	1,505·4
"	Napinka	1,463·1
"	Melita	1,416·4
"	Elva	1,497·2
"	Pierson	1,538·2
"	Gainsborough	1,609·5
"	Carievale	1,679·0
"	Carnduff	1,730·4
"	Glen Ewen	1,825·2
"	Oxbow	1,904·1
"	Alameda	1,903·0

Elevations taken in 1912

Canadian Pacific Railway	Frobisher	1,892·1
"	Hirsch	1,883·5
"	Canadian Northern Railway (diamond crossing)	1,901·6
"	Bromar	1,906·4
"	Estevan	1,870·4

RAIL ELEVATIONS AT STATIONS, NORTH PORTAL TO REGINA, SASKATCHEWAN

Elevations taken in 1912

		FEET
Canadian Pacific Railway	North Portal	1,954·
"	Pinto	1,878·0
"	Roche Percée	1,746·8
"	Shand	1,851·4
"	Estevan	1,870·4
"	Hughbrook	1,911·3
"	Canadian Northern Railway (diamond crossing)	1,891·6
"	Midale	1,908·0
"	Halbrite	1,906·4
"	Ralph	1,900·6
"	Weyburn	1,857·3
"	McTaggart	1,881·2
"	Yellow Grass	1,898·8
"	Lang	1,909·2
"	Milestone	1,913·3
"	Corning	1,902·3
"	Wilcox	1,896·5
"	Dunia	1,895·4
"	Regina	1,888·1

RAIL ELEVATIONS AT STATIONS, NORTH PORTAL TO REGINA, SASK.—*Continued.*

(Elevations taken in 1912.)

		FEET
Canadian Pacific Railway	Pitman	1,895·3
"	Drinkwater	1,875·6
"	Moosejaw	1,778·7
"	Pasqua	1,880·2
"	Madrid	1,891·1
"	Belle Plaine	1,915·1
"	Pense	1,891·9
"	Grand Coulée	1,868·0
"	Pinkie	1,892·6
"	Grand Trunk Pacific Railway (diamond crossing)	1,883·6
"	Regina	1,896·4

RAIL ELEVATIONS AT STATIONS, REGINA TO GIRVIN, SASKATCHEWAN

(Elevations taken in 1912.)

		FEET
Canadian Northern Railway	Regina	1,896·4
"	Grand Trunk Pacific Railway (diamond crossing)	1,882·7
"	North Regina	1,895·7
"	Ardmore	1,920·1
"	Condie	1,875·5
"	Lumsden	1,630·2
"	Disley	1,828·0
"	Bethune	1,828·7
"	Findlater	1,819·5
"	Chamberlain	1,881·4
"	Aylesbury	1,890·2
"	Craik	1,915·2
"	Girvin	1,974·7

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Scott, Que.	211–B	...	...	52	77
Shallow Lake, Ont.	290	...	...	60	83
Shannonville, Ont.	154	459	467	...	...
Shelburne, Ont.	271	...	...	59	82
Sherbrooke, Que.	1, 2, 3	454	465	...	...
" "	35, 36	453	463	...	...
Sigas, N.B.	51–B	449	461	...	...
South Stukely, Que.	45	452	463	...	...
Springhill, Que.	19–A–2, 20–A	...	...	50	76
Stanbridge, Que.	67	453	464	...	...
Stanstead, Que.	34	...	...	49	75
Stephen, Minnesota	1–C	...	...	66	87
Stickney, N.B.	32–B	448	461	...	...
Stoney Creek, Ont.	201	...	...	63	85
Stoney Point, Ont.	250	...	...	57	81
Stottsville, Que.	79	456	463	...	...

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Sutton, Que.	52	454	464	...	...
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	ST.				
St. Anselme, Que.	214-B	...	...	52	77
St. Armand, Que.	68, 69, 70	453	464	...	...
Ste. Brigide, Que.	71	452	463	...	...
St. Catharines, Ont.	207, 208	...	...	63	85
St. Ephrem, Que.	198-B	...	...	51	77
St. Evariste, Que.	195-B, 196-B	...	...	51	77
St. George, N.B.	83-B	451	462	...	...
Ste. Henedine, Que.	212-B	...	...	52	77
St. Henri, Que. (Lévis county)	216-B	...	...	52	77
St. Honoré, Que.	70-B	450	461	...	...
St. John, N.B.	97-B, 98-B, 99-B, 100-B	452	462	...	...
St. Johns, Que.	75	452	463	...	...
" "	76	455	463	...	...
St. Joseph-de-Lévis, Que.	220-B	...	...	52	77
St. Louis, Que. (Beauharnois Co.)	88	456	466	...	...
St. Mary, Que.	209-B	...	...	51	77
St. Polycarpe Jct., Que.	92	456	466	...	...
Ste. Rose, Que.	62-B	449	461	...	...
St. Samuel, Que.	188-B	...	...	50	77
St. Stephen, N.B.	2-B, 3-B	446	460	...	...
St. Télesphore, Que.	94	456	466	...	...
St. Victor, Que.	200-B	...	...	51	77
	T.				
Tara, Ont.	293	...	...	60	83
Tatamagouche, N.S.	147-B	...	...	46	74
Teeds Mill, N.B.	23-B	447	460	...	...
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Thornhill, Man.	9-C	...	...	66	87
Thorold, Ont.	210, 211	...	...	63	85
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Trenton, Ont.	161	460	467	...	...
Tring Jct., Que.	204-B	...	...	51	77

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	V.				
Valley Jct., Que.	207-B	...	...	51	77
Valleyfield, Que.	89	456	466	...	...
Versailles, Que.	72	452	463	...	...
Vosburg, Ont.	246	...	...	57	81
	W.				
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Wingham, Ont.	314	...	...	61	83
Winona, Ont.	202	...	...	63	85
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